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ORIGINAL COMMUNICATIONS.

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THREE CASES OF SPONTANEOUS HEMORRHAGE FROM THE SEPTUM.*

BY MARCEL NATIER, M.D., PARIS.

There are various kinds of nasal hemorrhages which are not usually considered of great importance, as the flow is generally slight and tends to arrest itself. In most of these cases the patient does not consult a physician, but employs various domestic remedies, some of them dangerous, that are popularly supposed to be valuable to control the flow. When the patient seeks a physician it is because he has become uneasy from the excessive loss of blood, through recurrence or its continuousness, with the resulting serious effect upon the system. For it is not impossible that such hemorrhages should imperil the life of the patient. My present intention is not to discuss nasal hemorrhages in their entirety, but to cite three cases from my practice, comparing them with others of a similar character, which I have collected. I have purposely chosen cases that were affected with spontaneous nosebleed, all having experienced the first attack at a remote period. By a direct examination of the cavities I was enabled, each time, to convince myself that the exclusive origin was upon the septum, the lesions being well defined. Treatment of these lesions arrested the flow entirely.

Observation I. Hemorrhage was situated on the left side, persisting for seventeen days, caused by a rupture of an artery. The account of this case has been furnished me by Dr. Simon, who called me in consultation. At my request he has written the details which I copy here verbatim:

* Paper read by title at the fourth annual meeting of the Western Ophthalmologic and Oto-Laryngologic Association, New Orleans, February 10, 1899.

"The patient which we saw had been treated by me four years previously for nosebleed which proved stubborn to anodyne treatment. I succeeded in arresting the flow by tamponing both cavities with cotton saturated with warm alcoholized water. I found that this patient, commencing at about twenty-five, had been subject to severe hematemesis which lasted for a long time, and reduced him almost to a state of anemia. Investigation proved that he was addicted to drink, his heart was irregular, his liver very large, extending to below the false ribs, the width of three fingers. Knowing him to be unsteady, I prescribed a very severe regimen. In my frequent attentions to other members of his family I observed that he followed my advice very minutely. From time to time he had slight hemorrhages for which he did not call me. Three years ago his hemorrhages started anew, and with great loss of blood. I was absent from Paris when the attacks first returned, and the physician attending prescribed an antipyrine solution to the nostrils and gave him ergot internally. Upon my return I again resorted to the hot water and tampons, but obtaining no results I decided to call you and by your use of the galvano-cautery you conquered the hemorrhage. Since then there has been no recurrence. This was the result—with the shrinking of the deep lesions, hypertrophy of the liver set in. Some albumen and sugar appeared in the urine and a bulky carbuncle protruded from the nape of the neck. This was operated upon, but there followed ascites, cachexia and edema. He was twice tapped. Then came an overpowering hematemesis, and coma, and death resulted at the beginning of the year. He was sixty-six years old."

To this memoranda I will add these remarks. It was during the last days of April that I saw the patient. In considering my summons to attend this case my impression was that the trouble was due to varicose veins on the septum, and I was careful to take with me an accumulator and galvano-cautery to use if indicated. My colleague explained that the hemorrhage had persisted for seventeen days, that he had tamponed without success, and suspected a double origin, as the blood would cease for a time when one side was plugged, only to reappear on the other when the plug was removed. He considered the patient's condition most dangerous. I found him propped up in bed, pale and hardly daring to stir. He was afraid to leave his bed for a better light, and I proceeded to remove the bandages and plugs there. He declared he would bleed again when I removed the plug from the right side, but when I got it out no blood came. I then proceeded with my rhinoscopic examination with mirror, speculum, etc. Twisting some cotton on a probe I pressed it against the mucous membrane, and convinced myself that the blood

must have originated solely in the left cavity. Here I proceeded, with exquisite care, drawing out one plug after another. The last one was in deeper than the middle of the cavity, and as I was removing the plugs with the pincers I observed a drop of blood coming from the middle of the septum. My diagnosis was now made. I discovered a rupture in a branch of the spheno-palatine, and this as the cause of the hemorrhages. I felt that I could cure him, and exclaimed accordingly, but my patient was far from sharing my confidence, seeing that the flow was renewed. The blood was gushing forth, and losing no time, I applied my galvano-cautery, which had been heated to a dark red glow, three or four times, without daring to wait for cocaine anesthesia. The flow ceased immediately. The patient was not convinced for he remarked, "Yes, I know, it stops that way sometimes, but as soon as I blow my nose it starts again." Then I requested him to blow his nose, and he did it gently, then violently, but without any recurrence. As a precaution I again made several applications of the cautery, and not without pleasure did I assure the patient that he was cured. His face lit up, he exhibited great pleasure, and illustrating his satisfaction by striking me on the stomach with the back of his hand, he exclaimed, "You are a quack!" (fool.) These were his last words. No more hemorrhages occurred, and the patient died not till three years later.

Observation II. Hemorrhage of fifteen years duration, from the left side only, and caused by varicose veins of the septum. B., twenty-eight years, a student in Paris. Hereditary history: Nothing special from either parent. Mother dead. Sisters and brothers not peculiar in any way. Personal history shows no tendency to hemophilia. Headaches in infancy, which later on disappeared. First epistaxis occurred between twelve and thirteen years. Brought on by headaches, which they relieved, consequently when he had a severe headache he would blow his nose in order to bring on the bleeding for its attendant relief. The flow in such cases was always less than when it occurred spontaneously. The latter were so severe that the patient would lose consciousness, and they occurred at least once a month. As a rule the bleedings returned once in two weeks, but often they had only a week or four days intervening. They appeared under varying conditions, and sometimes they seemed to have as their excitant a physical or mental state. For example, they came after a run, bodily fatigue, mental strain or excitement. The bleeding continued thus until he was sixteen or seventeen, and then grew less frequent. At twenty-two they had diminished still more. This continued until he was about twenty-six, when there was a slight increase. In truth, they returned

every week, or even every few days, and sometimes several times a day. At the Conseiul de Revision, the military examining board which admits recruits to the army, he related the history of his case, and it was pronounced a disease of the heart. He was very weak and was forbidden any violent exercise, but when he indulged in it he was none the worse. He became convinced that red wine caused the flow, and he abstained from this beverage until he came under my care. When I took charge he was suffering great depression, was melancholic, had weak eyes, and could not endure the glare of the sun or even the glistening snow. At one time he submitted to Kneipp's treatment, which improved him during the eight succeeding months. His sight became stronger, and the hemorrhage less during this treatment. He also made use of the advice of a young English physician, who recommended sexual erections ("rapports"), which produced a decrease of the hemorrhage during a certain time. I accidentally became acquainted with his condition, being accustomed to dine with him. He had become accustomed to nose bleeds, which he felt nobody could cure, and only upon my assurance that I might cure him did he consent to an examination.

Rhinoscopic examination of the left side revealed varicosities on the septum which bled on the slightest touch. I applied the cautery but once, and since then there has been no recurrence. December 1, 1898, this patient related to me his subsequent experiences. He has continued his studies with interest, little by little, had laid aside his glasses and now no longer uses them; his headaches have entirely disappeared, and when they are present are very slight. His general condition has much improved.

Observation III. Hemorrhage of fourteen years duration from varices of the septum. Madame M., twenty-six years old. No profession.

Hereditary history: Father died at thirty-eight, probably from phthisis. Mother in good health, also a sister. No family history of hemophilia.

Personal history: During childhood had nosebleeds, but they attracted no attention. At twelve they appeared rather frequently, and at fifteen became more severe, almost daily. Indeed she lost great quantities when under the least mental or physical exertion. From the beginning she observed the flow as coming from the left cavity. First menstruation was between the ages of fifteen and sixteen years. At this time she was weak, anemic, and had frequent spells of dizziness. She was convinced that the nose bleed would cease when her periods became regular, so she did everything to bring this about.

But the hemorrhages only became more frequent, and even appeared during menstruation. She was told that marriage would cure her, so she married at twenty, but was disappointed, though not completely.

She became pregnant twice, and during the first pregnancy had no hemorrhage. During the second she had two or three attacks, but they were slight. Both children are living, healthy, and not subject to hemorrhages. Between the pregnancies the bleedings recurred, and after the second pregnancy they continued up to the time she came to me. During these years of suffering she consulted several physicians, but they only prescribed tonics, hamamelis Virginica, phosphate of lime, etc., and some of them examined the nares. Failing in this therapy she was advised to make a pilgrimage to Lourdes. This advice resulted in benefit, for it was then that she became pregnant the second time. People may draw their own conclusions concerning the pilgrimage. She had not grown thin, doubtless because she retained her appetite. Although intelligent, her memory was poor. Various physicians opined that she would not live very long, at different times, owing to her very much reduced health. This was the condition of affairs when she consulted me. I found her a woman of medium height, very pale, and apparently greatly depressed. Rhinoscopic examination showed the right nasal cavity normal, but on the septum, in the left side, there were scabs, formed from small clots, on a very red surface. All around were well-defined vascular arborizations formed by numerous varicose veins. I separated the scabs from the septum with a probe, wrapped with cotton, which caused the blood to flow immediately. I applied an anesthetic of a five per cent solution of cocaine, and afterwards cauterized several times, heating the point to a red glow. As a definite treatment I ordered the patient to inhale *une pommade au tanin* several times daily. November 26, 1898, M. called to see me. She said that since my treatment, which was now longer than three years, she had not experienced the slightest hemorrhage, but it seemed they were proceeding to reappear, and each day she was surprised not to have them return. She had not used the "pommade," not having found it necessary. Her menstruation, always slight, had not changed in character, except that they were perfectly regular, whereas formerly they were not. Her condition had greatly improved. She began to improve noticeably within two weeks after the treatment, had grown stouter at first, but later lost weight, but there was no return of the flow. Her memory was slightly better apparently. Endurance was not in evi-

dence as she had not worked. Examination of the left nares revealed no varices, but in their place was cicatricial tissue.

Remarks. From comparison of the three cases we arrive at the following deductions: Our cases consisted of two men and one woman, but we must not enter into statistics. In our cases the hemorrhage was spontaneous in all, and could be traced to the nasal cavities, and I would specially emphasize the importance of the mirror and speculum to all physicians. It was indispensable to the first patient.

The other two cases presented varicose veins, and ulcerations so frequently described, the seat of which is always on a level with the cartilaginous septum near the middle part. In the first case there existed a rupture of the internal branch of the spheno-palatine situated very much higher, and further back. Without a direct examination it would have been impossible for me to have given a positive diagnosis, and the exact location of the lesion which was on a level with the bony part of the septum and too deeply set to be seen with the naked eye. The hemorrhages from varicose veins is injurious to the health, but that from a ruptured artery may immediately endanger life if not properly treated. The failure to arrest the flow in Case No. 1 was due to two causes: the location and the nature. Those ordinary hemorrhages which are produced from a level with the cartilaginous septum are easily checked by restriction or tamponing when they do not cease spontaneously. This was not the case with the first patient. By not knowing the exact seat of the flow the plugging was imperfectly done; direct restriction could have been of no avail had the plugging not been done far enough back into the cavity. The arterial flow washed away the clots, and I do not exaggerate when I affirm that had affairs continued death would soon have ensued.

The young man representing Case II, actively engaged in brain work, was in a veritable state of neurasthenia, due to the hemorrhages. Even his sight was affected. An objection raised by some would be that frequent hemorrhages could produce neurasthenic depression. This has some value, but circumstances have remained the same with this patient, and his general condition has much improved under my care, and I believe my treatment to have been beneficial. These same remarks are applicable to the young woman. Should nosebleed be treated? There can be but one answer, "Yes!" But, every one will not agree to this, and in our day there are physicians who hesitate. They establish classifications of those which are, or are not, to be treated. The vicarious hemorrhages of former times still have those who believe in not treating them; but

these are becoming fewer and fewer, though not yet entirely extinct. Some think that nose bleeds due to such organs as the liver, heart, kidneys, menstruation, etc., ought not to be treated. Others declare that to deprive a patient of such an emunctory is to expose him to arterial sclerosis, or to a serious complication of diseases, especially in the vicinity of the encephalon. These convinced, but over conservative practitioners, we would ask to make distinctions, and not consider venous and arterial hemorrhages as the same. Though the first might permit of a certain amount of tamponizing such a procedure would be death to the second. Thus, in considering the cases here described, it is inconceivable how any one could advise letting my first patient go untreated for so long a time. This case also serves to interest us as proving the exaggerated scruples of those physicians who fear an arterial sclerosis. Not only did the arrest have no ill effects upon the encephalon, but the man was enabled to live three years longer, and if it is true that his death occurred in coma I don't think it had anything to do with the cauterization which was done at an opportune time. These are the facts, and we can draw our own conclusions.

When we have located the source of the bleeding our action should always be to promptly check it. The means may be varied. Having no other means we can bathe the parts in hot water, by simple astriction, or by tamponing. The flow being unilateral it suffices to tampon the side from which it comes. It is rare that it is necessary to plug both the anterior and posterior nares. If the blood comes from the anterior part of the cavity it is necessary to apply the plugs at that level, and to notice if the flow stops. But, this is not radical treatment. A permanent cure is to be effected only when we have removed the cause. Our endeavor is to tansform the ulcerated and friable mucous membrane, at the level of which the blood flows into cicatricial tissue. This can be accomplished with either nitrate of silver, chromic acid or the galvano-cautery. From conviction I always employ the latter. I am justified in this, since in all my cases I met with success. In the same manner I have been successful with a great number of other patients. The instruments are simple, and one can have them constantly available for either office or outdoor practice. If the battery is not available one could use the chromic acid or silver. But, in my opinion, the actual cautery, as represented in a probe, heated red hot over a spirit lamp, is preferable.

PREVENTION OF NASAL CATARRH.

BY FREDERICK C. ROGERS, M.D.,

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In the prevention of any disease we must, of course, look to the conditions near and remote which are the cause of it and eliminate them as far as possible. It is a recognized fact that, in the majority of cases, the catarrhal process begins early in life and matures as age advances. Hence, whatever prophylactic measures are undertaken, they should, to accomplish the greatest good, be begun and followed out in childhood.

The nose and its accessory sinuses constitute a very extensive and intricate apparatus. It has very important and extremely delicate functions to fulfil, and upon the proper fulfilment of those functions depends to a large degree our physical health. Any considerable change in its normal anatomical relations obviously means impaired function, and impaired function means altered secretion.

Children, as a rule, begin life with healthy noses, and the change from a healthy to a chronic catarrhal condition can generally be avoided by the use of proper clothing, the bath, attention to the digestive apparatus, exercise and fresh air, and last, but in no wise least, by such local treatment of the nose and throat as may be necessary to insure freedom of nasal respiration and drainage. Exposure is inevitable, therefore we must prepare for it by increasing our resisting capacity by accustoming our bodies to sudden changes. Too much clothing is worse than too little. Our aim should be to cover the body with light woolen underwear and outer garments sufficient to keep the cold out, but not enough to be burdensome or to induce even slight perspiration. Wool is by far the most hygienic material for undergarments and should be worn next to the skin in varying weights all the year. It is light and porous, and permits of thorough circulation of air, which insures dryness and gradual cooling of the body when freely perspiring from exertion. Woolen stockings and heavy-soled shoes should be worn during the cold and inclement weather of spring, fall and winter, and the use of rubbers and overshoes abandoned.

People think to prevent taking cold by bundling themselves up, reasoning that by keeping the cold air out they will escape having a

cold in the head. There is no more pernicious habit than that of wrapping the throat in furs, large collars, boas, etc., for by their use the resistance of that part of the body which is bound to be exposed at times is lessened. The part becomes weakened through unnatural heat and the result is chronic catarrh. The daily use of the sponge bath or cold plunge is of the greatest value in preventing the development of nasal catarrh as well as in its treatment. It is one of the greatest hardeners of the system that we possess.

Careful attention in the matter of diet and in the regulation of the bowels should be strictly adhered to. These matters are left all too often to the discretion of the child. Any improper action of the digestive tract is sure to intensify an already existing pharyngeal or nasal trouble.

Children should be kept out of doors as much as possible, rainy or windy days, as a rule, offering no objection. They should be encouraged to romp and run, and, as they grow older, to engage in all manly sports, for by these measures do they unconsciously help to fortify themselves against future diseases.

Children of school age are usually housed six hours or more of the day in overheated, poorly-ventilated school rooms, breathing the already poisoned atmosphere over and over. I have lately been interested in making observations as to the temperature and ventilation of some of our school rooms. It is not at all uncommon to find from forty to sixty small children in a poorly-ventilated room, the temperature of which ranges from 70° upward. The children have flushed faces, are inattentive and restless, and no wonder. It is a common complaint among mothers, that as soon as their children begin going to school they have frequent and severe colds. They will continue to have them until we have teachers who understand and appreciate that the temperature and proper ventilation of the school room are of vital importance, and mothers who will dress their children for comfort and health rather than for style.

What is true of the temperature of the school room applies as well to many of our houses. Furnace-heated air, almost devoid of moisture, is respired again and again. It is this atmospheric dryness that so over-works the glands in the throat as to cause them to undergo hypertrophy.

Purulent rhinitis, so common and persistent among children, should receive continuous home treatment. The value of such treatment can hardly be overestimated. A soft rubber ear syringe, with a warm alkaline and antiseptic solution, used two or three times a day, each time thoroughly cleaning the nose. The frequent use of the

handkerchief (which should always be encouraged in children) will do away with the germ-laden, muco-purulent discharge, and allow nature to repair and strengthen the diseased membrane. Frequent office-treatments are necessary to insure perfect cleanliness and also for the purpose of stimulating the tissues to renewed activity by the use of local applications. In case there is no appreciable disease of the nose or throat, I think it is wise to use a cleansing spray every day or two simply as a prophylactic measure.

I believe mouth-breathing is rarely, if ever, a habit in the first instance, but rather a necessity. Every case of mouth-breathing should be examined to determine the presence or absence of nasal stenosis or adenoid vegetations in the vault of the pharynx, both of which require attention. If the septum is deflected so as to cause considerable narrowing of either passage it should be corrected at once. Nasal stenosis will ultimately cause the over-worked tonsils to become hypertrophied and very prone to acute follicular disease. Besides retro-pharyngeal and circumtonsillar abscesses, which are frequently caused by entrance of the streptococcus through diseased tonsillar crypts, that common enemy of mankind, the tubercle bacillus, invades the cervical lymphatics through these portals, causing enlargement and paving the way for a general tuberculosis. All enlarged tonsils should receive careful treatment, either by extirpation or by destruction of the diseased crypts, which will render them less liable to inflammation.

ASTHMA AS A REFLEX MANIFESTATION FROM ABSCESS OF THE ANTRUM.*

BY CHARLES W. RICHARDSON, WASHINGTON, D.C.

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All rhinologists have at times interesting cases which demonstrate the peculiar and devious manner in which pathological changes within the nasal chambers and neighboring accessory cavities work out reflex disturbances in the respiratory tract and other organs. These disturbances are at times so remote, the method of their workings so difficult to trace out, and their correlation so beyond comprehension, that one is unable to decide whether the relief of the accessory disturbance is an effect or an incident in the treatment. In the past three years I have had under my observation two cases of antral abscess attended by marked evidence of asthma, in both of which cases the asthma seemed to be excited in a reflex manner through the abscesses of the antrum; or, in which the asthma was relieved through the evacuation of the pus within the antral cavity. I have had the index of titles of the library of the Surgeon-General's office carefully searched for papers bearing upon this subject, but could find no such disturbance mentioned. As far as possible, I have had papers and treatises on antral abscess examined, for the same purpose, but to no avail. I therefore present these cases to you as describing a never before mentioned, so far as my knowledge goes, reflex cause of bronchial asthma.

Case I. In May, 1896, I was consulted by a young woman who gave the following history: About thirteen years ago she contracted a bad cold which was attended with profuse discharge from the nose and excessive coughing. She consulted a physician in Chicago, where she was then residing, but gained no relief. During the following spring the cough abated somewhat and the discharge from the nose lessened considerably. During the summer she noticed that the discharge ceased in the left nasal cavity but still persisted in the right cavity, and, at this time, her attention was called to an offensive odor which she occasionally detected. The odor became more intense and she described it as "something terrible." She stated that she used from ten to fifteen handkerchiefs daily. During the second winter all her symptoms became more intense, and to

*Read before the American Laryngological, Rhinological and Otological Society, at Cincinnati, Ohio, June 2, 1899.

those already described were added intense frontal headache and occasional paroxysms of asthma. During the succeeding three or four years the local symptoms remained the same but the asthma became more persistent, being present every night. About this time she began to lose flesh; and from the persistence of the purulent discharge, asthma and cough, began to dread the possibilities of tuberculous infection. During all this period she was under the care of various physicians, in Chicago and Washington. At the time she came under my observation, she presented the picture of a very ill woman. She was markedly emaciated, very weak, pulse 130, and with a temperature of 102°. For a month previous to consulting me, she had frequent slight chills. Her breathing was extremely labored, and sonorous rales could be heard when sitting close to her. The breathing was extremely difficult by day as well as at night. Examination of chest revealed sibilant, sonorous, and mucous rhals throughout the whole area of both lungs. Examination of nasal cavities showed the right antrum of highmore to be the seat of an abscess—probably the original condition that had brought about all the pathological changes. The nasal cavities were fairly free, the turbinates being only moderately enlarged and permitting free nasal respiration at all times. In the mouth on the right side I found only jagged remains of the first and second molars. These old snags were removed under nitrous oxide gas by Dr. Gustavus Brown. I made a free opening into antrum through the alveolus and evacuated the pus, some necrosed bone and granulation tissue. The breathing was immediately relieved and the patient had no recurrence of the asthma for a period of eight weeks. After four weeks of treatment the patient was discharged as cured. After a period of eight weeks from the opening of the abscess the patient returned to me with the statement that there had been a recurrence of the discharge from the nose and for two days severe paroxysms of asthma. The cavity was reopened and, after a week's treatment, allowed to close. The patient rapidly recovered her general well-being and continues perfectly well at present writing.

Case II. This patient was a man of thirty-four years of age, a printer by occupation; was brought to my office by Dr. P. S. Roy, to ascertain the possible relation of any local morbid condition with the unusually serious asthma with which the patient was afflicted. Dr. Roy stated that the patient had had asthma for a period of two years upon which he had exhausted his therapeutic knowledge without any benefit to the patient. During all this period the patient had a profuse, offensive nasal discharge. The poor fellow's appearance was deplorable and his exhaustion and extreme efforts to respire were pitiful to behold. I found all evidence of a left antral

abscess. There were several bad teeth on left side and I requested that the second bicuspid and first molar be extracted and that he should then return to me to have the abscess opened through the alveolus. This patient was also in a septic condition as demonstrated by frequent chills and high temperature. I narrated my previous case to Dr. Roy, of which he already had knowledge, and advised the treatment of the antrum, which was absolutely necessary, hoping also that it might demonstrate some casual relationship to the asthmatic condition. The patient was so exhausted by the trip to my office that it was a week before he was enabled to have the teeth extracted. The patient's breathing was so extremely embarrassed and his exhaustion so great, on the day upon which he presented himself for operation, that I dreaded almost to make the attempt at opening into the antrum. After perforating and washing out cavity, I removed him to an adjoining room and continued my work. In about fifteen minutes I returned to my patient and was almost dumbfounded at the marvelous change in his breathing and the evidences of relief depicted in his countenance. In response to my inquiry as to how he felt, he replied, "Bully." In a period of a month he was discharged cured, having had no recurrence of asthma since the few minutes after the evacuation of the antral cavity. Two months later, while bicycling, he reclined upon the grass and contracted a serious cold. This cold caused a recurrence of the antral abscess and the asthmatic paroxysms. Several weeks after this occurrence the patient presented himself again and I immediately reopened the abscess with attendance of immediate relief. This patient is still under my care. Since he returned to me in January of this year (1899) the patient has relaxed in treatment several times, each relaxation in treatment being attended with a reaccumulation of pus and attack of asthma. So long as the cavity is free from pus, so long is he free from asthma.

In the two cases above narrated it is to be noted that the complete relief of the asthma resulted from or was coincident with the evacuation of the antral cavity, and as long as these cavities remained free from accumulations of pus there was no recurrence of the paroxysms of asthma. It is also noteworthy that in the first case, although three years have elapsed since the cure of the antral abscess, there has been no deviation from the absolutely normal condition. There was not, nor has there been at any time during the treatment of these cases, while under my care, any remedy given to control the asthma. It is impossible to state whether the reflex disturbance issued from the pathological change and the accumulation of pus within the antral cavity, or from the nasal cavity, due to the irritation excited by the pus which ran from the antral cavity and bathed the tissues of the nasal chambers.

1102 L Street.

REPORT OF A CASE OF EMPYEMA OF THE FRONTAL SINUS, WITH ORBITAL ABSCESS—OPERATION AND CURE.

BY WM. A. MARTIN, M.D., SAN FRANCISCO.

Mr. B., first seen May 6th, 1898. At that time there was a slight swelling in the inner angle of the left orbit, the upper lid was heavy and did not lift properly, giving the eye a heavy look. The left nostril was obstructed by an immense hypertrophy of the middle turbinate. He stated that a polyp had been removed several months before. My first endeavor was to clear the nostril of the obstruction by snaring the enlarged turbinate. The orbital swelling would increase at times and then return to the original condition. I tried to probe the frontal sinus through the natural opening with a celluloid probe, and at times thought I had succeeded, as such probing would be followed by a flow of pus. This varying condition continued until in July, when the orbital trouble became so pronounced that I had him go to the hospital with the intention of opening the frontal sinus. The swelling in the orbit, however, became so prominent and there being fluctuation, on the advice of Dr. Morse, I decided first to let out the pus, and did so by an incision a little to the left of the middle of the orbit, immediately under the brow; at least a couple ounces of pus escaped. In passing a probe through the opening I seemed to enter a bony cavity with denuded bone at places; this same conclusion was reached by Drs. Morse, Weil and several other surgeons present at the operation. Three days later I decided to enter the frontal sinus, which I did by a modification of Czerney's operation (Golgovines), Dr. Morse, Drs. Weil, Stirewalt and the house internes being present. The sinus proved to be about the size of a hazelnut, was filled with pus and granulations, but there was a free passage into the nose. With a curette I had no difficulty in burrowing through into the other cavity, which evidently was either an independent abscess emanating from the ethmoidal sinus, or was a secondary abscess caused by the migration of infectious material through the orbital plate of the frontal bone.

I passed two drainage tubes through the outer opening into the frontal sinus and closed the external sinus opening. The condition improved at once and he was discharged from the hospital on the 24th of July. The discharge gradually decreased and I removed the tubes and used gauze drainage. About the 10th of August I

removed all drainage; it continued well for several days, but then the sinus filled up and I was obliged to let out the pus, which I did with a Graefe knife at the most prominent point over the sinus. I inserted a small drainage tube both at this point and in the outer opening, and by passing a probe, re-established a through and through drainage. I attended to the cleansing myself for several weeks, washing with boric acid solution and then injecting iodoform in suspension in alcohol. Mrs. B. soon learned to do the work nicely, so I intrusted the treatment to her hands. There was a steady improvement until about the end of September or beginning of October, when the discharge entirely ceased.

I cut out the middle turbinate by means of the Myles nippers, so as to leave free drainage from the sinus.

Spring Valley W. W. Building.

Frontal Sinusitis, with Several Illustrative Cases—Walker Downie—*Glasgow Med. Journ.*, May, 1899.

The author in this paper briefly describes five cases of frontal sinus empyema which had been under his care. When performing the external operation, the author employs the following method: Either a vertical mesial incision is made, or where one sinus only is involved, an incision along the line of the eyebrow is preferred. The greater part of the anterior wall of the sinus is removed, the cavity is cleaned out and a free opening is insured into the nose by curetting in the anterior ethmoidal region. No drainage tube is passed into the nose, but the sinus is packed with cyanide gauze, the end of the gauze being brought out through a counter-opening made close to the inner canthus of the eye. The skin incision is closed throughout its whole length. The packing is left in position for from seven to fourteen days. In each of his cases the skin incision healed by first intention. Of the five cases reported by the author it is very satisfactory to note that all are reported as cured, there being an entire absence of discharge from the frontal sinus at the time of writing. In one, a small quantity of mucopus passes occasionally into the pharynx, apparently from the posterior ethmoidal cells. In one of the cases a second operation upon the sinus was found necessary. In five out of six cases the author has found associated ethmoidal suppuration. The cases described in this paper were not complicated with antral empyema.

A. Logan Turner.

BENIGN LARYNGEAL TUMORS.*

BY JOHN M. INGERSOLL, A.M., M.D., CLEVELAND, OHIO.

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Papillomata of the larynx are not rare. They occur more frequently than all other kinds of tumors of the larynx combined. Fibromata are second in order of frequency, but are comparatively rare.

Papillomata may occur as a single warty, cauliflower-like tumor, or like warts on any other part of the body; there may be several of them located in different portions of the larynx, but a growth in the posterior part of the larynx should always suggest the possibility of syphilis or malignancy. They are usually situated in the anterior part of the larynx and more frequently develop on the anterior half of the vocal cord than on any other portion of the larynx. They may occur congenitally, and are then usually associated with hypertrophy of the faucial tonsils or Luschka's tonsil or both; they may also be developed by the laryngeal irritation caused by mouth-breathing in children with adenoids or enlarged faucial tonsils, and in such cases they usually disappear when the adenoids and tonsils are properly treated. Papillomata of the larynx in children are, however, comparatively rare.

The etiology is difficult to determine; laryngeal strain or excessive use of the voice in speaking or singing may cause them, but they frequently develop in persons who use their voice very moderately and a few cases have been reported in deaf-mutes.

The pathology consists of hypertrophic changes in the papillæ with a proliferation of epithelial cells forming small round projections.

Fibroma of the larynx usually occurs as a single tumor, though the development of one on the edge of the vocal cord may cause a similar growth on the opposite cord.

Their etiology is uncertain. They are composed of a mass of dense connective tissue, scantily supplied with blood vessels, and usually present a rather round, smooth surface covered with mucous membrane.

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*Read before the Cleveland Medical Society, May 26, 1899.

The symptoms caused by papillomata and fibromata are similar and consist of a sense of fullness or discomfort in the larynx; cough is frequently complained of. The interference with phonation is purely mechanical and is dependent upon the size and location of the growth and varies from slight hoarseness to complete aphonia. Spasm of the larynx sometimes occurs.

If the tumor is large, it will interfere with respiration, particularly upon exertion.

It is the intent of this paper to report three cases of laryngeal papillomata and three of fibromata, which it has been my good fortune to see and treat during the past year.

Case I. L. M., aged six, a well-nourished and active boy with a good family and personal history. Several months before consulting me, his mother noticed a slight hoarseness developing; this hoarseness gradually increased until he could only speak in a whisper. For more than a month he had been having difficulty in breathing and was unable to run and play on account of the impeded respiration. When asleep, his breathing was noisy and labored, making him very restless at night, and the repeated attacks of what his mother called croup were evidently due to spasm of the larynx.

Fig. 1.

Attacks of coughing were frequent.

A thorough examination showed the nose, naso-pharynx and pharynx to be normal.

The larynx was almost completely filled by a large, irregular, cauliflower-like tumor, covering the right vocal cord entirely and the anterior two-thirds of the left cord.

The diagnosis of papilloma was made from the macroscopic appearance of the tumor and intra-laryngeal operation advised. Under cocaine anesthesia a piece of the tumor was removed with Krause's double curette and examined microscopically and the diagnosis of papilloma confirmed.

Owing to the age of the child and his consequent lack of comprehension of how he could aid the operator by holding his head in the proper position and protruding his tongue as far as possible, the difficulties of the intra-laryngeal operation were greatly increased, but in several sittings I succeeded in removing most of the tumor.

All difficulty in respiration disappeared; the voice improved markedly, the cough ceased and the boy slept well, free from any attacks of laryngeal spasm.

At this time the mother returned to her home in the country, promising to bring the boy back soon, but the case has not been seen since.

(Plate I represents the condition of the larynx when first seen and after the last operation.)

Case II. M. F., aged thirty-two, a well-nourished and healthy man; history negative.

A slight hoarseness, which began five months previous, without any apparent cause, was the first indication that he had any laryngeal trouble. The hoarseness had steadily increased and was accompanied by a tickling sensation and cough; otherwise he felt perfectly well.

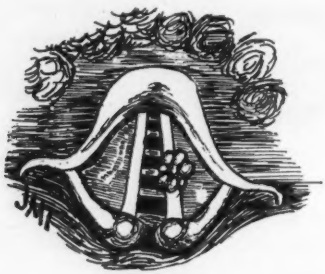

Fig. 2.

The whole respiratory tract, with the exception of the larynx, was normal. On the left vocal cord, at about its center, there was an irregularly round cauliflower-like tumor about 0.5 cm. in diameter.

The whole larynx was slightly inflamed.

The tumor was removed with the double curette and the base cauterized with chromic acid.

At the end of ten days the larynx appeared normal; the voice was clear and good and has remained so.

(Plate II shows the appearance of the larynx before the operation.)

Case III. C. D., male, aged forty-five. History negative; general health good. The patient is a smoker and drinks the stronger liquors moderately. He had been troubled by a gradually increasing hoarseness for two years, until his voice became very harsh and rough and it required considerable effort for him to speak above a whisper. His larynx felt irritated continually and frequently was quite sore; cough was a constant symptom.

The nose and naso-pharynx were normal.

The pharynx, epiglottis and larynx were all chronically inflamed and exceedingly sensitive.

On the anterior part of the left vocal cord there was an irregularly oval warty-like tumor, covering the anterior third of the

Fig. 3.

cord and extending over a small part of the right cord. A piece of the tumor was removed and the microscopical examination showed it to be papilloma.

In two sittings the tumor was all removed except a very small piece on the extreme anterior end of the left cord, and as all symptoms of irritation and cough had disappeared, the patient refused to have anything more done, although I assured him that it would probably recur if left in that condition.

Four months later the patient came to me again, as he was beginning to have a return of his former symptoms. A laryngeal examination showed that the papilloma was recurring. At present he refuses to have anything done, except local application (zinc chloride or alcohol), which give him considerable temporary relief.

(Plate III shows the condition in the larynx when first seen.)

Case IV. E. H., female, aged thirty-two, general history good. One and one-half years ago the patient first began to have occasional attacks of hoarseness which became more and more frequent and prolonged until the voice finally remained harsh all the time.

The upper respiratory tract was normal, the larynx was unusually small and the epiglottis was also very small and sharply curved from side to side, making a very narrow opening into the larynx.

Fig. 4.

On the free edge of the right vocal cord, at almost its center, there was a small, round, smooth tumor, about 2.5 mm. in diameter.

The tumor was removed with the double curette and examined microscopically; it proved to be a fibroma.

Within a few days the voice was normal and has remained so ever since.

(Plate IV represents accurately the size of the larynx and the tumor.)

Case V. H. H., female, aged eighteen. History negative.

For eight months she had been troubled by a slowly increasing hoarseness.

There was a small spur on the nasal septum, but respiration was not at all impeded by it.

On the right vocal cord, at about its center, there was a firm, round tumor, 1.5 mm. in diameter; directly opposite, on the left cord, there was a thickened spot, surrounded by an inflamed area.

The tumor on the right cord was removed and proved microscopically to be a fibroma.

The thickening on the left cord was treated by local applications of zinc chloride and was rapidly disappearing, when the patient left the city.

Fig. 5.

(Plate V shows the larynx before the operation.)

Case VI. P. D., aged thirty-six, a healthy German contractor. Hoarseness and cough extending over a period of sixteen months were the symptoms of which he complained.

The upper respiratory tract was normal.

In the anterior part of the larynx there was an irregularly, oval, nodular tumor, about 1 cm. in diameter, covering the anterior part of both cords and projecting up above them about 1.5 cm.

Fig. 6.

The macroscopical appearance of the tumor in the larynx suggested papilloma, but under the microscope it proved to be a dense fibroma.

The tumor was removed in four sittings and the point of its attachment, along the anterior fourth of the right vocal cord, was cauterized with chromic acid, and the larynx is now practically normal.

(Plate VI shows the appearance of the larynx in this case.)

There is nothing in the history of any one of the three cases of papillomata which gives us any clew as to the etiology; the possibility of smoking and drinking, as an etiological factor, suggested by Case III, is more than counterbalanced by Cases I and II, in which there was no such element; it is not wise to attempt to draw any conclusive deductions from so limited a number of cases.

The liability of papillomata to recur, unless thoroughly removed, is well illustrated in Case III.

In the three cases of fibromata there are also no conditions which can be reasonably considered as causes for their development.

In all of the cases the principal symptoms were hoarseness, caused by the tumors being so situated as to mechanically interfere with perfect apposition of the cords, and more or less cough, and the feeling of discomfort and irritation in the larynx.

In all such cases the treatment consists in thorough removal of the tumors, by intra-laryngeal operation, if possible, if not by an external operation.

50 Euclid Avenue.

A Laryngological Clinic—Wm. L. Ballenger, Chicago, Ill. — *Medical Standard*, June, 1899.

Four cases are presented. The first is a case of fracture of the infraorbital arch through the infraorbital notch with anesthesia of that portion of the face supplied by the infraorbital nerve.

The second is a case of deflection of the septum nasi with spur. The spur was removed and the septum straightened in the usual manner. The author mentions the use of tampons saturated with tincture of benzoin compound and states that the benzoin prevents decomposition.

The third is that of a woman who had swallowed a pin, which was found sticking through the mucosa on the under side of the epiglottis. It was removed with the curved laryngeal forceps.

The fourth is a case of hereditary syphilis of the nose in a girl four months old. In conclusion the author sums up the essential facts concerning the course and the treatment of hereditary syphilis. Andrews.

SOME OBSERVATIONS ON THE ANATOMY AND PHYSIOLOGY OF THE EAR.*

BY W. F. COLE, M.D., WACO, TEXAS.

Man being the highest type of animal creation, we find in him the highest development of the organs of sensation. It is interesting to trace the evolution or development of the acoustic mechanism from primitive animal life. The Protozoa appears not to have any special organ of hearing. Certain forms of Radiata appear to have rudimentary acoustic nerves. Many forms of the Gastropoda have their organs of hearing connected with their organs of locomotion. The Cephalopoda have their organs of hearing in the head as the Vertebrata.

Worms also have acoustic vesicles in the head connected to the osophageal nerve ring. Insects, such as grasshoppers and locusts, usually have their acoustic organs located at the side of the first abdominal segment or at the base of the first segment of the anterior legs.

Other insects have their organs of hearing located in their antennæ or feelers. The lobsters and other large crustacea have their organs of hearing located in the basal joints of the first pair of antennæ. Nearly all vertebrate animals have distinct organs of hearing, though they differ much in form. Fishes have no external or middle ear, and no cochlea in internal ear. Reptiles, except the crocodile, are without external ears. In some of the reptile class the membrana tympani is located externally, appearing as a thin scale in connection with the skin. In reptiles and fowls the membrana tympani is supported by a single bone or chain of bones supporting the membrane in convex form, much as the handle supports an opened umbrella.

In reptiles and fowls the incus and malleus are external to the ear and appear as quadrate and jugal bones supporting the jaws. Mammals, of course, have acoustic organs much the same as man. Beginning with the gelatinous bulbs and vesicles in the snail we may trace the evolution or development of the organs of hearing. If we could project the optic nerve of man with the eye as a terminal bulb from the orbit, how similar it would be to that of a snail. If we could divest the bulbous auditory nerve of its terminal mechanism, the laby-

*Paper read before the Texas State Medical Association at San Antonio, April 27, 1899.

rinth and tympanum, how like it would be to that in primitive life! In the simple forms of animal life the organs of hearing have very simple functions; they serve to warn against an enemy or to find a mate. The human ear, though so wonderful as a mechanism, and so superior to that in the lower forms of life, yet is of itself imperfect, having its limitations like the eye. As there are X-rays to the eye so there are X-sounds to the ear. The lowest tone audible to the human ear has 16 vibrations to the second, and the highest 24,000. All other tones are inaudible. As we find color blindness in certain individuals, so we find tone deafness in others.

The wonderful mechanism of the eye and the ear is the wonder and astonishment of scientists who have been plodding since the world began in working out the principles which are there embodied. And to-day are still plodding to reach the end of attainable knowledge on these subjects. The ear, by reason of its secondary importance and more complicated mechanism, is less understood than the eye. Much of the science of acoustics is theoretical. I believe that I have had the fortune to clear up some of the mysteries concerning the ear.

The accepted theory is that sound vibrations are transmitted from the membrana tympani through the ossicles to the vestibule and thence to the cochlea, though it is accepted that some sound passes through the air of the tympanum and fenestra rotunda. My own observations and experiments have led me to believe that the reverse is true. I have also been enabled to clear up the mystery of the so-called artificial membrana tympani. I have reason to assert that sound ordinarily passes not through the ossicles and fenestra ovalis, but through the air of the tympanum and fenestra rotunda. My theory is not new, for according to Politzer it was advocated by the older physiologists, particularly Pascal, and at a later date by Sapolini and Pecchi; but I do not know upon what grounds they based their theories. My theories are based entirely upon my own observations and experiments, and deductions therefrom. I read a paper at Atlanta, in March, 1898, in which I related my first experiments, and I am forced to repeat somewhat. A young lady, attending college, consulted me. She had suffered with otorrhea in both ears from childhood, and was subjected to occasional attacks of mastoiditis. She had neither membrana tympani nor ossicles in either ear. The discharge in both ears was from the attic. In the left it was slight, while in the right it was profuse. The hearing, as to distance, was for the right about $^{6}/_{10}$, the left $^{1}/_{10}$; that is, for the right she heard 18 feet where she should have heard 30 feet. I did

mastoid operations on both sides. After the operations, the hearing for the left was unchanged, but for the right she heard at five feet what she should have heard at forty. She was compelled to leave school for lack of hearing. I tried various artificial membrana tympani with no success, except a paper tube, which gave fair satisfaction when we could place it right by accident. Her hearing departed with the cessation of the otorrhea. I continued to see her occasionally for the purpose of treating the ear and experimenting with the various artificial membrana tympani. On these occasions I irrigated the ear with a syringe. While the water remained in the attic her hearing was acute. But, to use her language, "It departed with a gurgle." Such phenomena had been noted by most otologists and the accepted explanation had been that the water acted as a conductor to the fenestra ovalis in lieu of the ossicles. It occurred to me on one occasion that perhaps the improvement might be due to concentration of the sound waves upon the fenestræ. It should be borne in mind that in the normal ear the tympanum is practically a closed cavity, being cut off from the attic and antrum by the ossicles and ligaments. So that when they and the membrana tympani are destroyed the external auditory canal terminates in an enlarged cavity composed of the tympanum, attic and antrum. I have shown this by means of a schematic drawing, No. 1. This may be illustrated with a

Fig. 1.

speaking tube in which the tube terminates, not in the small ear tip but in a very much enlarged opening. The sound waves being dispersed instead of concentrated. I found that cotton wool placed in the attic and anterior part of the tympanum acted the same as the water had done. I found that the effect was the same whether the fenestra ovalis was or was not closed so long as the attic was closed. I found that the hearing was lessened when the posterior part of the tympanum was covered with cotton saturated with water or vaseline.

These experiments explained to me the occasional improvement of hearing in such cases by the so-called artificial membrana tympani. The occasional improvement in hearing being due to the accidental cutting off of the attic and antrum, and thereby concentrating the sound impulses upon the fenestra rotunda. My conclusions were verified in numerous other cases, some of which I will mention.

The application of the cotton wool being impractical I began to devise some other means of concentrating the sound upon the fenestra rotunda. I found good results from the use of a section of thin rubber tube, such as Politzer used for the poor, but this tube was uncertain because the wall of the tube did not cover the fenestra or else the wall of the tube covered it by slipping over the promontory. I overcame this fairly well by cutting a notch from one side of the inner end of the tube, which would allow the sound to pass to the fenestra, the notch being directed to it. These tubes were imperfect, due to the fact that they did not fill the meatus properly nor direct the impulses upon the fenestra. I then devised some cone-shaped tubes, shown in cut No. 2, which have been quite satisfactory in a number of my own cases as well as others.

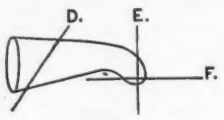

Fig. 2.

The young lady referred to in the article has been wearing my tubes for more than a year, before which she used the section of tube described. She visited my office recently while attending a church convention, and I made a test of her hearing in the presence of Mr. Slayden, the President of the Slayden-Kirksey Woolen Mills; Mr. Alfred Abeel, Receiver of the Waco and N. W. R. R. Co., and Dr. A. H. Snead and others. Without the tube she heard and repeated numbers at five feet; with the tube she repeated the same at thirty-five feet, being normal hearing.

During the summer of 1898 I conducted some experiments at the hospital at Golden Square, London. Dr. H. Lambert Lack, London, F.R.C.S., a member of the hospital staff, made the tests upon three cases I give here as reported by him:

Hospital No. 5636, female, æt. sixteen. Deaf since two years old. Drums and ossicles gone in both ears. Hearing with wool in ears, loud voice well heard at forty feet; without wool, loud voice not well heard at six feet. It will be seen that by the law of acoustics the improvement was nearly fifty-fold, and was the same for both ears.

Hospital No. 5147, female, æt. nine. Right ear; deaf all her life. Drums and ossicles gone. With wool hears voice thirty feet, without wool hears voice twenty feet. In this case the improvement is more than two-fold.

Hospital No. 3688, male, æt. twenty-five. Drums and ossicles gone in both ears. With wool in, hears, with right ear, voice forty feet; without wool, four feet. Left ear, with wool in, hears voice four feet; without wool does not hear voice. It will be seen that the improvement of the right ear in this case is one hundred-fold.

Dr. Gibbs, of the Illinois State Hospital for the Eye and Ear, writes me that he has two patients who are using the tubes with great satisfaction. Other communications too numerous to mention, endorsing my investigations, have been received.

Theories long promulgated attain almost the force of scientific facts. The theory that sound passes to the internal ear through the ossicles is a familiar illustration. Elaborate experiments have been made to illustrate the fact, and when Edison perfected the phonograph many aurists accepted this as conclusive proof, and to a superficial observer it did appear pretty conclusive; but my investigations lead me to assert that Mr. Edison's phonograph proves my theory that sound passes to the internal ear not by way of the ossicles, but through the air of the tympanum and the membrana tympani secondaria. When we examine the structure of the drumhead we find it a thin membrane whose strength is due to muscular fibers which radiate from the handle of the malleus to the periphery of the tympanum, and these fibers are as various in length as the strings of a harp. Furthermore, the membrane is not uniform in tension nor is it of uniform thickness, so that the different segments of the membrane would have different fundamental pitch and would vibrate to different tones as the strings of an instrument. In no other way can we account for the capacity of the human ear to hear so great a multiplicity of sounds at the same instant. It is well known that the director of an orchestra or a chorus of voices can easily distinguish the tone of any instrument or any voice from all the others; but the phonograph cannot copy an orchestra nor a chorus as heard by the human ear because it has not the capacity, because the metallic diaphragm vibrates not in segments but as a whole. Many tones are

neutralized in their impulses upon the metallic disc, due to the condensation of one sound wave being synchronous with the rarefaction of another wave.

I assert that the phonograph cannot repeat orchestral nor choral music as heard by the human ear. The loudest sounds will make their impression upon the wax, while the interference of others will result in a squeak. I believe that sounds of great volume and intensity do pass to the internal ear through the ossicles, the membrana tympani vibrating as a whole. What then are the functions of the ossicles and the tympanic cavity? The ossicles are nothing more than a system of levers to regulate the tension of the membrana tympani, much the same as the bridge and the sounding post in a musical instrument regulate the tension of the strings. The tympanum serves much the same purpose as the body of the violin to reinforce or magnify sounds. The principle of the reinforcement of sound by confined bodies of air is well understood in acoustics, being the foundation principle in all musical instruments. As previously stated, the mechanism of the human ear is peculiar to mammals. When the outer drumhead and the ossicles are destroyed a person hears much the same as a serpent whose membrana tympani is united to its skin. If the tympanum and labyrinth were eliminated one would hear much the same as the snail, and strange to say, Sexton, Gruber, Bezold, Goldstein and others have reported cases of some hearing where the whole of the labyrinth had been exfoliated. In the use of my tubes I have only applied the well-known principles of acoustics concentrating the sound impulses upon the inner drumhead or membrana tympani secondaria.

I have failed to secure results in certain cases where the mucous membrane of the tympanum had been substituted by epidermis, the inner drumhead doubtless being thickened.

Cut No. 2 shows shape of tubes as manufactured by Mayer, Meltzer & Co., of London, or Truax, Greene & Co., of Chicago. The lines D, E and F represent manner of cutting the tubes with scissors to secure the proper shape.

SINUS-THROMBOSIS; CURE WITHOUT OPENING THE SINUS.*

BY ROBERT LEVY, M.D., DENVER, COLO.

Professor of Physiology and Laryngology in Gross Medical College; Laryngologist to Arapahoe County, St. Anthony's and St. Luke's Hospitals, etc.

Case.—J. B., female child, aet. six years, was first seen by me through the courtesy of and in consultation with Dr. G. B. Crews, November 17, 1898. The child's father had died of tuberculosis, with the exception of which there was nothing important in the family history. About two years ago, after exposure to cold, there occurred severe earache in the left ear, but unattended with any discharge and continuing several days. The child gives evidence of enlarged tonsils and the presence of adenoids, which, in a subsequent examination, was confirmed. During the past year the child has been showing signs of slight deafness. On November 11, 1898, without apparent cause, the child was again suddenly taken with severe pain in the left ear, which continued uninterruptedly with great severity until the evening of November 12th, when a sudden profuse, purulent discharge from the external canal occurred. The pain in the ear, although considerably diminished, did not cease. The child seemed nervous, restless, and apparently very ill. On the evening of November 14th, without any warning, a sudden severe chill occurred, followed by great fever, but no sweating. The following morning another severe chill caused the mother much anxiety on account of the great depression, pinched appearance and general distress which followed.

At the time of my examination I found the child very irritable, presenting a general appearance of depressed vitality, rapid pulse but no rise of temperature. Upon examination of the ear a very moderate amount of discharge of a purulent character, without odor, was seen. After cleansing, a small perforation was detected in the posterior inferior quadrant. There was no displacement of the auricle, no swelling over the mastoid, but decided tenderness over the tip which extended down the neck. Upon close investigation, this tenderness was also marked over the region of the lateral sinus. There was frontal headache, coated tongue, loss of appetite, vomiting and vertigo upon moving.

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*Presented to the Western Section of the American Laryngological, Rhinological and Otological Society at San Francisco, March 28, 1898.

A general expectant plan of treatment was instituted, and the case carefully watched until November 23d, when all constitutional symptoms had become gradually worse. Up to this time there had been seventeen distinct and severe chills. The pulse continued high, never less than 120, while the temperature was exceedingly irregular, reaching 105 F. in the axilla and at times being as low as 96 F. The anorexia, vomiting and vertigo did not abate. The child continued very restless and sleepless; was emaciated and weak. The local symptoms did not vary much, the discharge continuing more or less, at times being quite scanty, at others rather free. The pain remained localized to the tip of the mastoid and to the region of the sinus. No swelling or redness could be detected. It was evident that the condition was one of great gravity, pointing to purulent deep-seated mastoiditis with thrombosis of the lateral sinus.

Operation was urged and, after much discussion, consented to by the mother. Removal to a hospital was, however, absolutely refused, which formed a serious handicap to opening the lateral sinus. At 7 p. m., November 23d, with the assistance of Drs. Crews, Joseph and Pershing, the latter having been called in consultation to confirm the diagnosis of thrombosis, the operation was performed. The general condition of the patient was so poor that she almost succumbed during the administration of chloroform and before the operation was begun. The mastoid was rapidly exposed and a normal cortex discovered. Upon entering the antrum, however, a small quantity of pus escaped and soft bone and granulations presented. With the curette this was thoroughly cleaned away, the mastoid cells exposed and all necrosis removed. At this stage of the procedure the advisability of entering the sinus was conscientiously discussed. Owing to the very precarious condition of the patient and the unsatisfactory surroundings, it was deemed best to avoid further operative interference, with the expectation of opening the sinus later should the urgent symptoms not abate.

The child rallied well from the shock of the operation, and by the fourth day presented a normal temperature, which continued all day, and a pulse which did not rise above 90. Her general condition was much improved, the restlessness and irritability having passed. Satisfactory progress continued until the ninth day, when the temperature suddenly rose to 103 F. Upon the tenth day, after decided chilliness, the temperature rose to 105 F., dropping within three hours to 98 F. The chilliness, followed by high temperature, continued almost daily until the thirty-fourth day, becoming, however, gradually less and followed by a temperature of less height, and con-

tinuing but a few hours. The depression in temperature during the entire course was very marked, being as low as 95 F. upon several occasions. Vomiting continued more or less, as did also the pain behind the ear. On the nineteenth day severe pain in the right ankle occurred, to which was added, on the following day, pain in the right knee, which continued for some days and finally disappeared. Upon the return of the chills, high temperature and other alarming symptoms, operation upon the sinus was again urged, especially in view of the fact that the child had made some favorable progress in point of strength. It was pointed out that the condition was one which would doubtless end fatally without operation, but the mother firmly and absolutely denied her consent. A very unfavorable prognosis was therefore insisted upon, the case placed under the care of Dr. Crews with the suggestion that supporting measures be all that could be done. At the end of the thirty-fourth day, the temperature was practically normal, the pulse but slightly accelerated and the general condition greatly improved. This improvement continued with occasional fluctuations until at the end of two months when the child was completely recovered.

With such a history one is placed in the awkward position of determining the correctness of a diagnosis of sinus-thrombosis. Had the case terminated fatally no such question would be raised. In view, however, of a favorable termination, and noting that it is extremely rare for these cases to recover without operation, as also with operation, one must have considerable conceit in his diagnostic skill to insist upon the diagnosis of sinus-thrombosis. Without having seen the thrombosed vein, it is only by a correct interpretation of symptoms, the preponderance of which points to sinus-thrombosis, that one may conclude that the diagnosis as above stated is correct. Nevertheless, it doubtless remains an open question as to whether the constitutional symptoms were not the result of septic infection from a purulent mastoiditis without involvement of the sinus. Had the case progressed favorably and improvement continued uneventful after the operation, which was thoroughly performed, complete communication between the antrum and the tympanum having been established, I should have dismissed it with the confidence that the original diagnosis had been incorrect. Owing, however, to the recurrence of all symptoms indicative of sinus-thrombosis ten days after the mastoid operation, I am forced to the conclusion that no error was committed. Bacon agrees that "When a patient suffering from purulent otitis media, and especially if there be symptoms of mastoid

disease, has a sudden chill, followed by a rise in temperature, the indications point to the formation of a thrombus, provided a careful examination of the patient's general condition has been made and other diseases can be excluded." In this case most thorough and careful investigation failed to reveal any other cause for the above mentioned symptoms.

The complex of symptoms as outlined by the history of this case can be explained upon no other ground, and as Whiting states "if the course pursued by the affection is at all typical, there musters in imposing array a sequence of symptoms which are quite irreconcilable, when associated with a suppurative inflammation of the ear, with any ailment other than infective involvement of the sinus." Accepting the correctness of the diagnosis in this instance, one is forced to the conclusion that the thrombosis did not undergo disintegration, that it proceeded no further than the early part of the second stage, as outlined by Fred Whiting, and that a cure by organization of the clot had taken place.

The Radical Treatment of Chronic Suppurative Otitis Media—H. O. REIK, Baltimore—*Mary. Med. Journ.*, May 6, 1899.

This treatment applies to those cases that have resisted careful conservative measures.

Anatomical boundaries and relations are described. When a purulent discharge has resisted antiseptic treatment for a period of a month or two some surgical procedure should be attempted. By removal of one or more ossicles, or what remains of them, the drainage is improved and good results may follow. In about fifty per cent of cases this method is applicable. In other instances of prolonged suppuration the Stacke or Zaufel operation should be performed.

These operations consist in the removal of all diseased tissues, and the converting of the mastoid antrum, middle ear and external auditory canal into one large cavity which is to be lined with skin. The technique is described. One case is reported cured by the Schwartze-Zaufel method. LEDERMAN.

THE USE OF GELATO-GLYCERINE BOUGIES IN THE TREATMENT OF EARACHE.*

BY GEORGE L. RICHARDS, M.D., FALL RIVER, MASS.

Otologist and Laryngologist to the Fall River and Emergency Hospitals; Fellow American Laryngological, Rhinological and Otological Society, Etc.

In an article on Earache, published in the *Boston Medical and Surgical Journal* of July 28th, 1898, I stated that I had been using for some time gelato-glycerine aural bougies, in which was incorporated various anodynes, for the relief of the early stages of earache from whatever cause.

Further experience with these has convinced me more than ever of their value, especially in an early stage of acute otitis media and in acute otitis externa. They can be inserted in the ear without difficulty, by simply washing off the lycopodium powder with which they are covered; they are then very slippery and with the affected ear uppermost easily slip down into the canal. Here the bougie soon dissolves, the anodyne is brought directly into contact with the inflamed surfaces and the pain is relieved. Besides being a medium for the exhibition of other remedies the glycerine is of itself distinctly curative, in that it tends to draw out some serum from within and lessen the tension. This favors absorption and a paracentesis may be prevented. After insertion the ear should be stoppered with absorbent cotton or gauze and a lightly filled hot water bottle placed at the side of, or over the ear. Cases which have gone beyond an early stage are of course beyond relief with this remedy and demand treatment appropriate to the condition, whether paracentesis or otherwise. Many a case of acute earache in children will, if promptly treated in this manner, at once subside without going on to severe inflammation.

So far as I am concerned there is nothing new or original in this except that I have slightly modified the formula of Wood's by the addition of the carbolic acid, and after some considerable experimentation have got the proportions of the gelato-glycerine media so that any apothecary can prepare them. These aural bougies were first originated by Prof. Gruber, of Vienna, are familiar to those physicians who have been students of his. He, however, neither in his book on diseases of the ear nor in his division of the Vienna

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formulary as given in Landesmann's *Die Therapie an den Wiener Kliniken* ever told how they could be made, and physicians who have obtained them in Vienna have not been able to get their apothecaries to make them up afterwards in this country, in a satisfactory manner.

In Landesmann's book it is simply stated that they can be obtained of Grohs, the apothecary, Währinger strasse, Vienna. The translator of Gruber's book says that Messrs. Bullock, of Hanover Square, London, also make them, but no working formula is supplied. In the *Journal of Laryngology*, January, 1898, R. H. Woods, of Dublin, gives a formula which I regard as superior to any of those of Gruber. Each of Woods' bougies contains three-sevenths of a grain of liquid extract of opium, one-fourteenth of a grain of cocaine, and one-fourteenth of a grain of atropia in gelato-glycerine. To this I have added three per cent of carbolic acid for its anesthetic and antiseptic properties. Woods does not give in his article the proportions of gelatine and glycerine, but says they should be such that while remaining fluid at the ordinary temperature of the air the bougie should melt at the body temperature or a little before, thus ensuring their ready dissolution when placed in the ear.

I offer in the formula that follows a correct working formula, and one that any pharmacist with a proper mould can use, so that they can be made in one place as well as another. My own druggist made them in a mould intended for urethral bougies and then divided each one into three. As this mould held just 14 urethral bougies the odd number of 42 is accounted for in the number prepared. After making they are covered with lycopodium powder and dispensed in a bottle as they are of course somewhat hygroscopic.

FORMULA.

Acid carbolic	minims	7
Fl. ext. opium	minims	6
Cocaine	grains	3
Atropine sulph.	grains	3
Aquae	minims	52
Gelatine	grains	18
Glycerine	grains	158

To make 42 bougies.

In size they should be no larger than will readily slip into the external canal. The size as made in a urethral bougie mould has proven satisfactory. Woods reports his results with these bougies in the ear complications of the exanthemata as very good and thinks many cases were saved the necessity of a paracentesis. This latter he is anxious to avoid where possible on account of the danger of the entrance of micro-organisms from without, and the conversion of a serous into a purulent otitis.

Whenever paracentesis is indicated it should be performed. There is, however, no doubt that if used early enough these bougies will save many a case from the necessity of paracentesis.

ADENOID VEGETATIONS AND DIPHTHERIA.

BY A. PLOTTIER.

Translated by
W. H. VITTUM, M.D., ST. PAUL.

Hypertrophy of the lymphoid glands in the naso-pharynx, and especially of the pharyngeal, or Luschka's tonsil, is a very common affection of infancy. It is very probable that it is more common even than is generally supposed. As a matter of fact these adenoid vegetations often pass unnoticed because, not being greatly developed, they remain, so to speak, latent, and give rise to no symptom which might attract attention to their existence.

On the other hand, in case of an acute attack of adenitis, or when the tumor is of large size, we observe a series of difficulties which call for our intervention. If in these cases, as often happens, the physician contents himself with simple irrigations of the nasal fossæ, he will generally obtain only a partial recession of the tumor and the remaining portion, which persists obstinately, will sooner or later be the source of grave complications. It thus occurs, that a large number of children who present a healthy appearance are really afflicted with adenoids, which are unsuspected.

It is a fair question whether these children are not more exposed than others to certain diseases, especially to diphtheria. In other words, whether in certain cases an etiological relation could not be established between adenoid vegetations and diphtheritic angina.

In the classical works on the subject it is stated that among the predisposing causes in the etiology of this disease are all the common inflammations of the upper respiratory and digestive tracts. Rhinitis, angina, laryngitis, etc., are rightly said to favor the development of Löffler's bacillus; but, so far as my knowledge goes, it has never occurred to any of our authors to suggest the possibility of the microbes making their attack at the level of Luschka's tonsil. I do not know whether any foreign work has been published which treats of this point or not; at any rate, so far as France is concerned, my bibliographic researches have been fruitless.

It is evident that in the great majority of cases the affection begins on the palatine tonsils, or at least that the initial lesion appears about the level of the pillars of the palate. All these parts are readily examined by depressing the tongue.

Under certain circumstances, as we shall see later, we have the right to assume that the false membranes primarily develop on the more or less hypertrophied pharyngeal tonsil, and spreading little by little from that point finally involve neighboring structures which are more accessible to view.

Löffler's bacillus particularly affects tonsillar tissue which seems to afford a suitable resting place for all sorts of microbes; and the disease, as we have all seen, nearly always begins on one of the tonsils.

Histologically, this tissue is an adenoid tissue exactly identical with that of the vegetations of the naso-pharynx; further, these tumors present irregularities of surface similar to the crypts of the palatine tonsils, which are capable of receiving and harboring all the various micro-organisms of the nose and mouth. The analogy is, plainly, very complete, and the diphtheritic infection might easily attack the pharyngeal tonsil and run its course unnoticed at first, particularly if it should remain localized and not attack the neighboring structures.

Again, adenoid vegetations are very often subject to acute inflammatory attacks, and an adenitis, like a rhinitis or a laryngitis, is capable of awakening into virulence the hitherto latent microbes and of affording them a good soil for development. Thus the Löffler bacillus which is often rendered inocuous by the buccal or nasal mucous of a healthy person, might, by a sudden attack of adenitis, be stirred into such activity as to set the disease going to the fullest extent.

If we take into consideration that these subjects are usually weakened by imperfect respiration we shall be justified in considering them especially vulnerable, and at the same time incapable of offering an effective resistance to the development of infectious germs.

These views, which may at first seem somewhat theoretical, are amply confirmed if we examine the naso-pharynx of children who have died of diphtheria. In a series of thirty-eight littlepatients who died of diphtheritic angina or its direct consequences, we have found that more than 50 per cent suffered from adenoids more or less developed.

These observations were made at Hôspital des Enfants-Malades from December 1, 1898, to February 28, 1899, and resulted as follows:

TABLE.

Sex.	Age.	Malady.	
Boy	4 years	Diphtheria.	No vegetations.
Boy	5 months	Diphtheria.	No vegetations.
Boy	4 years and a half	Diphtheria.	Slight vegetations.
Boy	15 months	Diphtheria.	No vegetations.
Girl	5 years	Diphtheria.	No vegetations.
Boy	2 years	Diphtheria.	No vegetations.
Boy	4 years	Diphtheria.	No vegetations.
Boy	2 years and a half	Diphtheria.	Vegetations fairly developed.
Girl	21 months	Diphtheria.	Vegetations fairly developed.
Boy	21 months	Diphtheria.	Vegetations fairly developed.
Girl	15 months	Diphtheria.	Vegetations fairly developed.
Girl	4 years	Diphtheria.	Vegetations very abundant.
Boy	2 years and a half	Diphtheria.	Vegetations very abundant.
Girl	3 years	Diphtheria.	Vegetations fairly developed.
Boy	5 years	Diphtheria.	Vegetations fairly developed.
Boy	7 years	Diphtheria.	Vegetations fairly developed.
Boy	16 months	Diphtheria.	No vegetations.
Girl	9 months	Diphtheria.	No vegetations.
Boy	9 months	Diphtheria.	No vegetations.
Girl	26 months	Diphtheria.	No vegetations.
Girl	18 months	Diphtheria.	Slight vegetations.
Boy	15 months	Diphtheria.	No vegetations.
Boy	14 months	Diphtheria.	Vegetations very abundant.
Girl	3 years	Diphtheria.	No vegetations.
Boy	1 year	Diphtheria.	Vegetations abundant.
Girl	6 years and a half	Paralysis.	Vegetations very abundant.
Girl	4 years	Diphtheria.	Slight vegetations.
Boy	18 months	Diphtheria.	No vegetations.
Boy	16 months	Diphtheria.	No vegetations.
Boy	23 months	Diphtheria.	Slight vegetations.
Boy	11 months	Diphtheria.	No vegetations.
Girl	11 months	Diphtheria.	Vegetations fairly developed.
Girl	2 years and a half	Diphtheria.	No vegetations.
Boy	5 years	Diphtheria.	No vegetations.
Girl	4 years and a half	Diphtheria.	Vegetations abundant.
Boy	2 years	Diphtheria.	No vegetations.
Girl	3 years	Diphtheria.	Vegetations abundant.
Boy	2 years	Diphtheria.	Vegetations very abundant.

Now, if we take these observations as a whole, without regarding the age or sex of the child, we find that out of 38 dead of diphtheria, 20 gave evidence of having suffered from adenoids during life.

These figures seem to be the most solid argument possible in favor of our view, for in no other infectious disease have we encountered a like proportion.

The exploration of the naso-pharynx is very easily accomplished on the cadaver. The soft palate is pulled forward by means of a little hook attached to a thread. This enables the fore or little finger to penetrate the cavity with ease. In each case where our examination revealed the presence of these tumors, they were removed by the aid of a Moritz Schmidt curette. They were more or less abundant in the different cases, obstructing the choane completely or in part. They showed considerable difference in color and consistence; sometimes soft and tumefied, indicating an acute inflammatory state; sometimes firm to the touch and presenting that roseate hue which is indicative of chronicity.

We only considered as adenoids those cases where the tumors were pediculated and lobulated and came away cleanly from the wall of the naso-pharynx, and were examined after removal. The finger often gave the sensation of a granular condition or of a diffused tumefaction such as we often see in the soft palate, the pillars and the uvula during the course of diphtheria. This state of things might lead to error if one were not forewarned.

In two of the cases the curette brought out large pieces of adenoid tissue covered with grayish adherent false membrane, while at the same time the faucial tonsils were covered with a like deposit. In one of the little sufferers we found false membranes on the vegetations, while the mouth was completely free. In this case it is probable that, owing to their situation, the deposits escaped contact with the detergent washes whose action is limited to the buccal cavity. It may be stated that here in France, since the introduction of antidiphtheritic serum, it is unusual to see the false membranes persist up to the time of death. As a general thing, during the 36 to 48 hours following the injection, the membranes become detached, not to reappear, in the majority of cases. This leads us to conclude that the reason for not finding deposits on the adenoid vegetations more frequently at autopsies is that the serum has already caused them to be thrown off.

Finally, in some of the subjects examined, the mucous membrane of the naso-pharynx was found dense and resistant as if atrophied, and giving to the finger the sensation of a membrane tightly stretched over a bony surface. We thus found all degrees of difference from atrophy of Luschka's tonsil to hypertrophy of that structure.

Thus we see that, in our statistics, more than 50 per cent of children dead from diphtheria suffered from adenoids more or less developed. We must ask ourselves the question whether a like percentage is to be found among those who have recovered. In other

words, does the presence of these tumors impart a peculiar gravity to the disease? Recorded observations in this direction are unfortunately wanting, but we must admit, *a priori*, that the presence of adenoid vegetations, by increasing the mucous surface of the naso-pharynx, favors the development of false membranes by extension, and, as a consequence, the absorption of toxines from a larger surface. Again, the insufficient respiration caused by their presence puts the patient in a poor condition for resistance.

In the toxic forms of diphtheria, which attack the patient overwhelmingly, there are usually grave general symptoms from the first. The examination of the throat reveals the presence of irregular, thick membranes of a dirty grayish color invading the tissue often over large areas.

But there are also cases where the false membranes are scattered and thin, such as one sees in mild attacks, and yet the child presents grave symptoms of intoxication. If in such cases a careful examination does not reveal infected spots scattered over the posterior part of the tonsils, in the nasal fossæ or at the base of the tongue, we should extend our examination to the pharyngeal tonsil, for it is very likely that we shall find hidden there the source of the infection.

It may be added that false membranes situated on adenoid vegetations, from their very situation, are unaffected by gargles and washes which are used by the mouth. From this fact, the formation and absorption of toxines continues in the naso-pharynx after the mouth and throat have been thoroughly cleansed.

Under certain circumstances, during the prevalence of an epidemic of diphtheria, we may see what is apparently a simple sore throat, characterized only by redness of the mucous surface, and free from false membranes, which is yet capable of propagating the disease, and in which an examination of the buccal mucus will reveal the presence of Löffler's bacillus. These sore throats, described as catarrhal or bacteriological diphtheria, are also known as latent or larvate forms. They are probably ordinary diphtheria where the anatomical lesion has remained undiscovered, either by reason of its slight development or because it is situated in some locality hidden from view, particularly behind the palate. Here an exploration of Luschka's tonsil and its surroundings would, in a majority of cases, furnish a key to the situation and reveal a point of infection which would have escaped a less careful examination.

If, under these circumstances, we insist particularly on the importance of a most conscientious examination, it is because most authors regard the existence of this so-called catarrhal diphtheria

with extreme suspicion. The early diagnosis of a diphtheria primarily local, and limited to the pharyngeal tonsil, would be of the greatest service to the patient and most important in view of the treatment.

The same might probably be said of certain cases of sudden croup, where a careful examination would enlighten us as to their true cause, that is, the presence of false membranes, which, having their origin on the adenoid vegetations, have invaded the larynx without giving rise to a pseudo-membranous angina. Sevestre and Martin have observed that false membranes sometimes originate on the nasal mucous membrane and give rise in a like manner to a condition resembling a sudden seizure of croup. Without denying the existence of a primary localization of the affection on the laryngeal mucous membrane, we are inclined to think that sudden seizures of croup are less frequent than is generally supposed.

These same authors, in their work on diphtheria, draw particular attention to those cases where the false membranes appear to originate on the posterior surface of the uvula. The lesion, spreading in every direction, ends by enveloping the whole organ in a sort of pseudo-membranous sheath.

This form, the authors say, appears to be due to the extension of a nasal diphtheria. We think, on the other hand, that a pseudo-membranous adenitis is the cause; the invasion of the posterior surface of the soft palate and the uvula would take place by gradual extension and terminate in involvement of the other parts of the throat.

For those cases where the false membranes appear to originate on the posterior pillars or the oro-pharynx, with or without regard to the faucial tonsils, we should be tempted to assign the same etiology; the last mentioned structures may remain free or become involved secondarily.

In a child suffering from adenoids, diphtheria is just as likely to be located on the pharyngeal as on the faucial tonsil. Their similarity in structure and their situation at a point especially infested with microbes, place them on an equality so far as receptivity is concerned. We may add that diphtheria of the naso-pharynx may also follow or accompany other forms of the disease.

When diphtheria is primarily located in the nasal fossæ, it often happens that the false membranes are most developed at the posterior part. This causes a tumefaction of the parts and more or less complete obstruction of the nasal cavities, at the same time a more or less abundant muco-purulent or sanious discharge appears at the nostrils. Sometimes, indeed, the symptoms of this condition are so slight that it escapes detection.

While admitting that nasal diphtheria may exist independently, we are of the opinion that, in a large number of cases, adenoid tumors primarily infected, are at the bottom of the trouble. The mechanism might be cited to explain the cases of invasion of the middle ear through the Eustachian tube. The adenoid vegetations by their intimate relations with the Eustachian orifice are best calculated to favor such extension. In addition to this, the mere presence of these tumors, in many cases, causes a tubal catarrh which furnishes an excellent soil for the propagation of the bacilli. Nevertheless it is possible that, in the absence of any naso-pharyngeal trouble, we may have a middle-ear diphtheria whose point of origin is in the nasal fossæ.

A review of the facts which we have just studied leads us to the following conclusions:

Whenever we find ourselves in the presence of a case where diphtheria is suspected or known to exist, we should bear prominently in mind the possibility of the existence of vegetations, since from our observations it is shown that more than half the children who died of diphtheria were so affected. From these facts arises the absolute necessity of a naso-pharyngeal examination in every case, whether it be to trace a primary lesion of this region or to adopt suitable treatment when it accompanies lesions situated elsewhere; it being possible that the naso-pharyngeal lesion may either precede or accompany other diphtheritic manifestations.

To accomplish this examination we may make use of the following methods:

1. Anterior rhinoscopy. 2. Posterior rhinoscopy. 3. Palpation.

Anterior rhinoscopy can only give us unsatisfactory information under these circumstances, even in the hands of a specialist.

Posterior rhinoscopy is a maneuvre little familiar to most physicians and, in practice, difficult of application. The natural indocility of young subjects, together with the narrowness of the region, which may be still further increased by an inflamed and painful swelling, conditions, we must confess, to render its execution easy. Nevertheless, this method of examination should be tried in favorable cases, where it may be of great value.

Naso-pharyngeal palpation is the method of our choice, it should never be omitted. Even though the finger cannot inform us, as well as the mirror, as to the presence of false membranes on the vegetations, still the mere fact that the latter are present will put us on our guard, and cause us to suspect the possibility of an invasion by these diphtheritic products.

Let us add that palpation should be practiced with the utmost gentleness and rapidity, in order to avoid hemorrhages which might give rise to the entrance of toxines into the blood. The information obtained by this examination will influence the prognosis and the therapy.

In closing, we must insist most strenuously upon the necessity for surgical treatment in all children afflicted with adenoids. The frequency with which these tumors are attacked by diphtheria and the special gravity which they appear to impart to the disease, are demonstrated by the examination of a large number of children who have died of diphtheria.

This new argument may be used to help decide the surgeon or the parents to permit surgical intervention.

Infective Otitis—F. M. WILSON, Bridgeport, Conn.—*Yale Med. Journ.*, May, 1899.

In the majority of cases bacterial invasion travels up the Eustachian tube. Influenza probably furnishes more cases than any other disease. Exanthemata of childhood are a potent factor in giving rise to this affection. The nasal douche is accountable for a certain proportion of attacks.

The nose and naso-pharynx are never sterile, and among the more frequent inhabitants of these regions are mentioned the staphylococcus pyogenes (albus and aureus), the streptococcus pyogenes, the pneumococcus and the tubercle bacillus.

Indiscreet use of the Politzer bag, or forcible blowing of the nose, occasionally causes an inflammation of the middle ear.

Attention is called to the importance of a now well-recognized fact that three-quarters of all ear diseases come from the nose or throat.

Early paracentesis is recommended, as it unloads the overfull blood vessels, relieves the pain and offers a ready exit for the serum, which usually precedes pus. The danger of starting an infective process from the external auditory canal must be considered, and this abortive measure should be carried out under strict antiseptic precautions.

The author prefers the fountain douche after suppuration has occurred. Heat exercises an adverse influence on bacterial growth. Traumatism should be avoided in applying moist heat. Powders are used only at the end of the treatment, as they are apt at times to cake and thus prevent drainage.

Extension of the suppurative process may be in a number of directions, and prompt surgical methods should be adopted.

Sinus thrombosis is now treated on sound surgical principles, and foci of suppuration must be sought for and drained.

LEDERMAN.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, Held May 24, 1899.

Robert C. Myles, M.D., Chairman.

Dr. Jonathan Wright stated that during the past few weeks he had had an extraordinary run of laryngeal cases, amongst which were three or four cases of tumors. In one of these he found great difficulty in getting hold of the growth with the forceps on account of the great amount of irritability present; he tried Mackenzie's and various other forceps. Finally he took his own snare and had a tip placed on it, which proved quite satisfactory, and he presented it because it worked so well; it could be as easily manipulated in the larynx as in the nose.

He also presented the tip of an ordinary syringe for intra-nasal irrigation. Many years ago he received a letter from the late Dr. Wilhelm Meyer, of Copenhagen, drawing attention to an instrument he devised for irrigation of the nasal cavities in atrophic rhinitis. His experience had taught him that in the back and upper part of the nose it was difficult to remove the crusts which cause a great deal of pain through their continuing *in situ*. The patients were unable to get them out. Dr. Meyer, noting some observations he had published in regard to the matter, kindly sent instruments of his which were devised as to overcome the difficulty. Permission was asked to present them to the Academy. They consisted of three long tubes perforated in a difficult manner, which could be attached to a fountain syringe. Through the pressure of water a stream was thrown directly up to the ethmoid region as the tube lay on the floor of the nose, and so softens the crusts. Believing that these tubes would be difficult to use in the hands of patients, the speaker had applied a simple hard rubber tip to the barrel of a post-nasal syringe which the patients can insert into the nasal cavity and so throw a stream up to the turbinated region. It had worked satisfactorily.

Dr. Francis J. Quinlan thought that the use of the hard rubber douche where there was any obstruction with great resistance

might possibly erode the mucous membrane. He recommended a long piece of rubber with the ordinary attachments of a fountain syringe; with this one could irrigate and the fluid could be kept from entering the Eustachian tube, directing patient always to keep the mouth wide open and avoiding if possible any swallowing effort.

Dr. Jonathan Wright said the syringe was devised for those cases of atrophic rhinitis where the post-nasal syringe did not give the desired relief. The cases needing it were those in which considerable atrophy had taken place, and this nearly always allowed of plenty of room for the insertion of the slender tip.

Bicycle-Pump Spray.

Dr. Robert C. Myles presented a spray-producer apparatus which had recently been shown him. It was operated by a bicycle foot pump. The price was $1.50. The pressure could be brought up to about thirty pounds.

Dr. M. D. Lederman thought that with thirty pounds pressure ear trouble might result, with the apparatus in the patient's hands. This was a very interesting question. Few individuals appreciate the importance of "blowing the nose" in a proper manner. It is not unusual to find a patient closing both nostrils in an attempt to clear the nasal passages of secretions. This "act" should be brought to our patients' attention. One side of the nose should always be free when such an attempt is made. He will then avoid forcing any secretion or solution into the Eustachian tube. I have seen a number of middle-ear lesions resulting from the forcible application of the atomizer and nasal douche. In my experience the douche should only be employed in "roomy nares," or where such a condition has taken place, the result of an atrophic rhinitis. The atomizer when employed gently is the safer instrument. One-sided nasal obstruction may prevent the return flow of the cleansing solution, if same has been introduced through the patent side, and thus some of the fluid may find its way into the Eustachian tube.

Dr. Wendell C. Phillips took exception with the last speaker. He did not believe that damage could result to the middle ear if the liquid used be aseptic. He thought one could introduce oil or different aseptic solutions with impunity and with no fear of middle-ear difficulty following.

Dr. Jonathan Wright said that we diluted the posterior nasal mucus, which was filled with streptococci and staphylococci, and these were thus washed into the ear. The normal nasal recesses

being viscid this could not happen when the nose is blown. He thought the use of the anterior spray or the syringe was attended with more or less danger in the patient's hands and was very inefficient, and the post-nasal syringe less so than any one thing. The patients should be told not to blow their noses after using the spray. No middle-ear trouble will develop if patients do not blow their noses after using the spray. He had no confidence in the use of the spray in the hands of patients, for they only spray the *ali nasi* and not the ethmoidal region of the nose, and so do not accomplish the desired ends.

Healed Papilloma of the Larynx After Operation.

Dr. Thomson presented this case because it was one which was operated upon by the late Dr. James E. Nichols several years ago. The history of the case was briefly this: About February, 1895, she began to have dyspnea, which increased until one year later when there was great obstruction to her breathing. In April, 1895, tracheotomy was performed, and in June one or two papilloma were removed through the tracheotomy wound, and in three more sittings the papillomata were removed entirely. They were on the vocal cords, and they were completely removed by February, 1897. In January, 1898, she began to talk, and now she talks although her voice is somewhat hoarse. She can now get some singing tones. Just two months ago the tracheotomy wound closed up, after being kept open nearly three years.

Dr. Francis J. Quinlan: This boy was brought to St. Vincent's Hospital cyanotic, having swallowed a steel screw some hours before. Upon examination it was found to have lodged between the vocal cords. All efforts to remove by endo-laryngeal proved useless. The patient was anethetized and an incision was made in the median line dividing the cricoid cartilage and cutting upwards for an inch. The foreign body was grasped and removed with some difficulty, it having a flange at its distal extremity. The wound was thoroughly cleansed and sutured at once, the boy was put to bed and forbade to use his voice. In one week he was up and about, and to-day the line of incision can scarcely be detected. I believe the use of a tracheotomy tube is apt to predispose to septic pneumonia, and always bears an ugly scar. Of course, if I did not have an intubation set at hand I might hesitate in many instances.

Dr. T. Passmore Berens showed a man, aged forty-six, who presented himself in November, 1895, stating that one year previously during an attack of coughing he had partly lost his voice. The loss of voice increased until, at the time of his first visit, he spoke only in a whisper. He lost flesh and had night sweats.

Examination of the larynx revealed a tumor which was edematous, white and coming from the ventricle on the left side. It presented the appearance of the so-called "Eversion of the Ventricle." The vocal cord could be seen anteriorly beneath this mass, but posteriorly the cord seemed to be absent. After removal of the tumor the cord was seen to be represented by a small nodule anteriorly, the rest of the cord absent and its base ulcerated; both arytenoids were edematous.

Examination of the septum showed tubercle bacilli in profusion. There were no chest symptoms. Submucous injections of creosote, according to the Chappell method, reduced the size of the arytenoids, but gave no appreciable result further in the larynx. The mass was removed with curette and pure Mono-ortho-chlor-phenol applied to its base. The larynx was then treated daily with local applications of pure ichthyol for three months, when the treatment was carried on every second day for about six months longer. As small unhealthy granulations appeared they were touched with pure Mono-ortho-chlor-phenol. The treatment lasted practically a year before healing had taken place and the tubercle bacilli had completely disappeared. The small portion of the vocal cord that remained interfered with the vibration of the other cord. This small piece was removed and its base healed smoothly, so that the right cord had no interference in its vibrations. The voice has steadily increased in volume and in clearness, as you can hear. (The patient speaks clearly and can be heard readily in all parts of the room.) He has had no treatment since 1896, and although under frequent observation, there has been no return of ulceration nor of tubercle bacilli.

Two Cases of Salivary Calculus in the Submaxillary Glands.

Dr. W. Freudenthal presented Mr. S., a merchant, forty-three years of age, who felt about a year ago a swelling in his throat which he mistook for a swollen gland. In the beginning this swelling only increased during mastication, causing slight pain. After eating, it discharged freely and the swelling subsided considerably. For the last two months it discharges only every three to four to six days. He is subject to quinsy sore throat every winter. On entering Wharton's duct with a probe, which can be readily done, you feel deep down in the submaxillary gland a hard mass of considerable size. This can also be felt with the finger. There is no doubt that this is a salivary calculus. As the patient did not care to undergo an operation I injected different fluids into the duct in

order, if possible, to dissolve the stone. I used the physiologic salt solution, muriatic acid (very much diluted) and other drugs, but without any benefit. To-day the stone shows the same dimensions as two months ago.

Case II. This patient is thirty-seven years of age and is a cigar-maker. He remembers when a boy having had a swelling of the throat on the right side that disappeared within a week. A year and a half ago it showed itself again at the same site and did not leave him since. About a year ago a swelling appeared directly under his tongue, and his physician, thinking it was a ranula, made an incision. Blood escaped and a day later two small stones. The swelling back in his throat remained the same. This grows larger during mastication. There are constant pains all over his head. Here again we can feel with the finger a hard stone imbedded in the tissues of the submaxillary gland. I shall remove the stone in a few days.

A Case Illustrating the Gleason Operation for Deflected Septum.

Dr. R. C. Myles showed this case. The operation was performed in less than two minutes and no tube was used, because the patient did not return to the clinic for after-treatment, and when he came back the result was better than if a tube had been used. The case was interesting, in that it showed what good results might be obtained without the use of a tube.

A Case of Endothelial Sarcoma of the Nose.

Dr. M. D. Lederman presented this case with the following history: Male, forty-one years of age, born in Switzerland, brass-worker by trade. He had worked in the machine shops for six years in Germany. The atmosphere in his shop was exceedingly dusty. He had pneumonia when eleven years of age, but no other disease of childhood. His family history was good. He came to America in 1891, and in 1892 nosebleeds were the first symptoms he noticed of his present trouble. These occurred about three times a week and usually in the spring of the year. The epistaxis continued for four years and then ceased for a year. In the winter of 1896-97 some difficulty in breathing through the right nasal chambers was noticed by the patient. He then consulted a physician, who found the presence of a growth and advised an operation for its removal. This treatment was refused, as the patient did not think the matter of so much importance. Some bleeding followed the examination but ceased of its own accord.

He then journeyed to Switzerland, and while there a surgeon removed some part of the growth through the nose and naso-

pharynx. This treatment was followed by marked hemorrhage, according to the patient; he estimates that fully a quart of blood was lost, but soon stopped of its own accord after lasting half an hour. No bleeding occurred last summer except when the nose was treated. At the slightest manipulation the nose bled.

In August, 1898, a piece of growth was expelled after forcibly blowing the nose. This mass was about as large as a walnut. A slight hemorrhage followed this incident. After this portion came away the breathing was much easier.

Since the summer of 1898 both nostrils are occluded. He has had considerable discharge of a muco-purulent character and complains of fullness and pressure in the frontal region. The man's general condition is very good and he has not lost much in weight, appeared well nourished and his bowels are regular. His vision is not impaired and he still works at his trade. On examination we find a mass of pinkish tissue occupying both nares in their posterior portion, filling the inferior meati, but not involving the middle turbinates. The growth is quite dense to the probe and seems to arise from from the right external wall of the nares, though the antrum is not prominent externally. On trans-illumination some light reflex was observed on both sides. The tumor extends into the rhino-pharynx, pressing upon the Eustachian opening on the right, and enters the posterior space on the left side, not touching the external surface on this side. It is not attached to the vault of the pharynx nor could he find any perforation of the nasal septum.

Posteriorly the tumor presents a cauliflower appearance. A microscopic diagnosis of sarcoma was made, but he removed a portion of the nasal growth and forwarded the specimen to Dr. Jonathan Wright, who was kind enough to make the microscopical diagnosis. In his report he states that some of the cells seem to have sprung from endothelial cells, but the mass of the tumor is made up of spindle cells which are supposed to spring from the fibrous tissue of the blood-vessels. He regards the growth as an endothelial sarcoma.

Exhibition of Two Radiographs of the Antrum Showing Intruding Teeth.

Dr. Holbrook Curtis presented two radiographs. The first showed that the discharge from the antrum, which had lasted for two years after removal of the first molar and constant irrigation, was in reality due to a root of the second molar which intruded the antrum. The second photograph showed that an osteoma was

occupying the left antrum a year after the removal of one from the right which had intruded into the orbit and was operated on by Dr. Weir. Trans-illumination did not show this and it illustrated the ofttimes uselessness of the latter method of antrum examination.

A Case of Nasal Hydrorrhea.

Dr. W. Freudenthal presented a woman, aged twenty-nine, married eleven years, has no children and never was pregnant. She is very nervous since her marriage and consulted many physicians for her nervousness. She was also treated for some stomach trouble. For the last five years she has had to sneeze a good deal every morning and immediately after her nose commences to run. It drops constantly for several hours. I told her to collect this and she brought me once a four-ounce bottle filled with this discharge that had collected within two hours. I have here two bottles collected respectively yesterday and the day before which show about an equal amount. You see that it is watery, sero-mucous discharge which presents under the microscope masses of flat epithelial cells. We have here a case of true nasal hydrorrhea which is purely of nervous origin. This neurotic element seems to be the same underlying factor as in the disease known as gastrocuccurrhea chronica, and in fact I believe her stomach trouble was nothing else but this gastrocuccurrhea.

I wish to mention at this time another case of a gentleman who suffered greatly from insomnia. He was sent to me for operation on his deflected septum. One afternoon I operated—Asch's operation—and at 11 o'clock that night I was called out of bed as his nose was running freely. He sat up all right bent over a cuspidor, his nose discharging constantly. When I saw him the next morning the tube was gone and he was in pretty bad condition. But when I told him I wanted to collect that discharge in order to demonstrate it, he stopped discharging and never had it again.

A Case of Disease of Maxillary Sinus.

Dr. Thom. J. Harris presented this case because of the many interesting symptoms; he hoped also that the members of the Section could render him assistance in its treatment. He had the woman under treatment for more than a year. She presented the following history: She received an injury upon the nose, which was followed one year later by much pain in that organ. A careful

examination at that time of the nose, made under the influence of ether, showed no necrosis or other disease of the septum. Sinus trouble was then thought of, and both middle turbinates were operated upon without relief of the pain. In spite of treatment the pain continued and diffused itself over the face. About four months ago a right-sided purulent discharge appeared, and the right antrum was opened and pus found. The pain still continued despite daily irrigation. About two months ago the Chairman saw the case and suggested more radical treatment. The antrum was reopened by a large opening in the anterior wall and the ethmoidal cells also curetted. Since then the discharge has ceased. The sinus was thoroughly irrigated, but instead of using peroxide of hydrogen solution a normal salt solution and one of boric acid were alternately used. Fifteen grains of iodoform was injected into the antrum every third day. The pain now is about the same. The antrum is now pretty well closed up; there is free drainage through the nose. Some pus comes from the ethmoidal cells. He asked whether still more radical treatment was called for; whether it was necessary to clean out all the ethmoidal cells. It had suggested itself to him that he was dealing with one of those cases where the nerves were affected and there was a neuralgic condition associated with the sinus disease.

Case of Necrosis of Septum with Excessive Crusting.

This case he had under care during the past winter. It was a young man who came to him with entire stenosis of the nose on the right side. Examination revealed a marked deflection of the septum. Two weeks before coming to the speaker perforation of the septal cartilage had taken place. He could not sleep well at night. With saw and forceps Dr. Harris succeeded in opening a passage through the right nares and keeping it open. For three or four months the patient had perfectly clear breathing and he sleeps well. The pain had nearly disappeared. But, coming on after the operative work, there is an excessive and pronounced scabbing which refuses to be set aside. It proceeds from the pharynx right into the nose. In the naso-pharynx some adenoid tissue was found which had been removed with the forceps in two sittings. The speaker asked the members to examine both the nose and naso-pharynx. He asked for the causes of the scabbing and the causes of the pain. There was no specific history obtainable, but for the last few weeks the patient has been receiving ten grains of iodide of potash three times a day.

Specimen of a Calculus from Wharton's Duct.

This specimen was presented by the Secretary for Dr. T. P. Berens.

DISCUSSION ON DR. QUINLAN'S PAPER.

Dr. Wright. It has been the custom ever since tracheotomy has been done to leave the tube in a certain length of time, resulting in scar externally, which is unsightly. I never could see, in many cases, the rationale of doing so. This wound, I believe, should nearly always be closed after removal of foreign body. If it be necessary to do a second tracheotomy this can be done promptly in the hospital and the wound can be opened a second time. Do not leave the tracheotomy canula in it if you can avoid it.

DISCUSSION OF DR. FREUDENTHAL'S CASE OF SALIVARY CALCULUS.

Dr. Wright: I should like to ask Dr. Freudenthal how large a salivary calculus has ever been removed.

Dr. Freudenthal: I forget.

Dr. Wright: I saw a salivary calculus of surprising size at the clinic the other day. It measured seven-eighths of an inch in one direction and over half an inch in the other. It had probably been contained within the duct and gland. In this connection I wish to relate the case of a woman who came into the clinic some years ago with a ranula under her tongue. It was slit open and closed up, but it filled again in a few days. In examining her it was noticed that her neck seemed rather full. In probing around to get at the bottom of the ranula under her tongue, I found a cavity beneath that which went in for a considerable distance; in fact, had the probe not been a long one I might have lost the probe. A bistoury was placed in the opening and it was slipped up when an enormous quantity of grumous material came out. I could not with the full length of my index finger make out the limits of this enormous cavity. How long it had been there I could not learn. Evidently it was a dilated salivary duct which had attained this enormous size. In order to demonstrate, one of the doctors placed in a catheter and turned on an air pressure apparatus to dilate and show it. Prompt measures were necessary to relieve her. It was a cyst cavity which soon filled up after opening.

Dr. Robert C. Myles: I have seen several cases of salivary calculi and ranula. One of them was most troublesome, occurring in a man who was prominent in social and literary life. He had a cyst or ranula of the submaxillary gland which extended beneath

the muscles and down to the hyoid bone. The accumulation above the bone raised the tongue. I thought that I could cure it by making an incision through the mouth and introducing a tube. For about six months he did well; then inflammation occurred around the tube and he was turned over to a general surgeon. The surgeon opened the cavity beneath the chin, dissected away the sock and burned the base with a Pacquelin cautery. In a few months the cystic cavity refilled and the man was in an almost demented condition. He then came under the care of another surgeon and he removed the submaxillary and sublingual glands from the outside. The patient suffered constantly from dryness of that side of the mouth and finally died in a state of dementia.

I remember a case of an officer in the British army who had a hard, extensive swelling with fistulous tracts beneath the lower jaw which had been diagnosed by several surgeons as a malignant growth of the neck. This man was at Dr. MacKenzie's office, and the doctor's prognosis was that it was not a tumor but a condition due to a calculus. Such was found to be the case. After the stone was removed the patient speedily recovered.

A few months since a man had a stone in the center of his submaxillary gland, and whenever he though of eating the gland would begin to swell, accompanied by agonizing pain. He could not attend to business. He consented to an internal operation. The gustatory nerve passes obliquely across from the tongue toward the inferior maxillary bone, near the second molar tooth, above the gland and beneath the duct. The calculus was imbedded just posterior to the nerve course. It was about three-quarters of an inch down to the stone, and when it was felt with the finger through the opening, the calculus was embedded firmly within the meshes of the fibrous tissue, which rendered it extremely difficult to dislodge and remove. The operation was done under cocaine anesthetic. The patient is all right, except when he bites a sour apple or something that stimulates the gland quickly and excessively.

Dr. Freudenthal: I had an experience somewhat similar. I operated upon a young man who was a professional clairvoyant. A great deal of pus came out. I wanted to see if there was anything else there and I went in deep; the submaxillary gland laid deep, and deep down one could feel the hard stone. The internal operation was done.

DISCUSSION ON DR. COAKLEY'S CASE.

Dr. Wright: To me the case is one of exceptional interest. I have never seen a case of tuberculosis of the nose unaccompanied by tuberculosis of the lungs. The presence of tubercle with giant cells is not sufficient to establish a diagnosis. It has been stated during late years that the appearance of syphilis of the nose was thought to be typical of that of tuberculosis. There may be a number of giant cells which makes it difficult to distinguish from tuberculosis.

DISCUSSION ON DR. FREUDENTHAL'S CASE.

Dr. H. H. Curtis: I do not think true nasal hydrorrhea exists. I do not believe that osmosis takes place through the nasal mucous membrane proper to such an extent, but that the discharge has its origin in the ethmoid cells and sinuses.

Dr. Quinlan: A few years ago a young lady met with a misfortune and developed a peculiar condition—excessive lachrymation. Following this excessive lachrymation, which lasted three or four weeks after the death of a near relative, large quantities of fluid descended through her nose, saturating handkerchief after handkerchief. This muco-serous discharge certainly came from the nasal cavity. The mucous membrane of the nostril in some instances is peculiarly active. The accessory sinuses are pneumatic spaces, not secreting glandular structures. This condition simulated, if not fully typifying, that disease known as hydrorrhea.

Dr. Lederman: But there is no history of pain. If there is no pain the fluid could not come from the sinus; if it did, pain would result from pressure.

Dr. Wright: I saw a case of hydrorrhea following the extraction of teeth. It was profuse, and I examined it during the discharge. It came from the mucous membrane of the nose. As to Dr. Curtis' contention that true nasal hydrorrhea does not exist, but that it comes only from the sinuses, I am entirely unable to agree with him. If a section of normal mucous membrane be examined after being imbedded in celloidin, cellular detritus carried by the serum from blood vessels can be traced through the epithelium to the surface.

Dr. Curtis: I should like to ask Dr. Wright if he has ever seen an excessive discharge which might come through the cribriform plate. I remember the case of a woman who rides horseback. Three days a week she cannot ride on account of the dripping which occurs. There appears a watery secretion from the back

part of her nose. I have become convinced that the nasal membrane over the turbinates was not the seat of the trouble, but that the watery discharge was of nervous origin, and either came through the cribriform plate or the ethmoid cells.

Dr. Wright: Does Dr. Curtis believe that the cribriform plate allows the cerebral fluid to drain directly into the nose without a solution of continuity in the nasal mucous membrane and the cerebral envelopes?

Dr. Freudenthal: I examined the case several times and found no affection of the accessory sinuses. I think the discharge comes from all parts of the nose where there are mucous glands.

DISCUSSION ON DR. HARRIS' CASE.

Dr. Meierhof: In reference to the woman, I do not believe that radically Dr. Harris has done enough. These pains may be neuralgic. They are due to the pressure in the antrum. While I cannot place any dependence upon trans-illumination it does show darkening. The opening was made through the alveolus. The pain at one time was greater than it now is. I do not believe that the opening was made large enough to explore the antrum of Highmore. I believe an opening made through the canine fossa might be wise and a plastic operation then done, or else remove the antral wall entirely. Until that be done one cannot be satisfied that there is no disease in the antrum of Highmore. One then can also explore the ethmoidal cells.

Dr. Myles: At the time I saw the antrum the walls were more or less thickened with granulations and there was periosteal inflammation. I did not explore the frontal sinus. There may be possible irritation of the fifth nerve from the continued periostitis under the eye. The best way to treat this woman, in my opinion, would be to thoroughly remove the diseased tissue. The girl has a narrow nostril and it is difficult to work through it. She does complain methodically, and I would suggest a little hypnotism in her treatment. Too much surgery in the antrum is frequently one of the chief causes of trouble.

DISCUSSION ON CASE OF SCABBING IN THE NOSTRIL—DR. HARRIS' CASE.

Dr. Wright: The case looked like one of typical syphilis to me. There is certainly an infiltration of the naso-pharynx. There is a nodule on one of the turbinates which looks like a gumma. If it was not due to syphilis it must be due to some neoplastic growth. It does not look like lupus, but it does not attack the bone. As to the history given by the person I am inclined to be sceptical, and

my experience makes me give but little weight to their statements as to syphilitic disease. Syphilis does not follow any rules of evidence. However, my diagnosis is only a hypothesis. Iodide of potassium has been given for six weeks with no iodide symptoms. While we should get some results from so much iodide, it is not at all unusual for the syphilis not to yield, especially when not combined with mercury. Mercury should always be combined with iodide of potassium in tertiary syphilis.

Dr. Curtis: I agree entirely with what Dr. Wright has stated. I would suggest in the exhibition of large doses of iodide of potassium the giving of hot water. If a hot bath be given two hours after the administration of the iodide the patient can stand enormous doses of the drug. I would also suggest the rubbing in of the oleate of mercury and advise the application to the nasal membranes of one per cent unguentum Credé made up with fresh lanoline.

Dr. Myles: In these cases of incrustation the ordinary applications have but little effect. I have tried many things, including ichthyol, alkaline sprays, lactic acid in twenty-five per cent solutions and also boric acid with aristol, under which, especially when applied with friction, some conditions seem to improve better than by other methods.

Dr. Lederman: I have in mind three cases of scab formation. I gave pilocarpine in one-eighth grain doses three times a day, and the patients experienced some relief while under this treatment.

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SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

We commend to our readers the programme of this great congress, as it appears on pages x, xii and xiv of this issue (publisher's department). It will be readily appreciated how completely it covers the field of otology, how representative are the names that appear after the papers. Here are to be found the first and foremost of the workers in otology, and a few of the fathers of this branch of medicine, the immortals who rescued it from reproach, almost disrepute. For it is not longer than the present generation that otology was entirely an adjunct to ophthalmology, for practitioners who knew no further than they could see. Less was known about the ear than of any other organ of sense, than, in fact, of any other organ of equal importance in the human body. And the laity found it out. The bedside practitioner had no professional respect for the aurist. True, he carried his syringe, but when he reached the tympanum he paused, as did Cæser, "upon the brink of the Rubicon," but unlike the Roman, he never crossed. But, thanks to these great men we now know the physiology and pathology of this most important mechanism, through which we acquire a large proportion of the

knowledge of a life-time, and can approach it in the reputable attitude of scientists, not as empirics. Otology has been elevated to the position of a great specialty, and men of learning dedicate their lives to its advancement, and are not ashamed of their calling. Here, in America, are to be found many untiring workers, and to them we urge the advantages of this International Otological Congress, where they may combine recreation with the acquirement of knowledge. There are three sides to the advantages of attendance upon such a gathering: the physical, the mental and the social. In these days of fast and cheap transit the trip can be made comfortably in a month, which is none too long a vacation from the strain of arduous practice, while the expense is no more than what would be consumed at a first-class summer resort on our own continent. To the inland practitioner the benefits from a sea voyage are especially assertive, and the change of climate, scene and associations are rest, relaxation and rejuvenation to any man wherever he may reside. For to the overworked and nerve-tired there are no drugs in his "balm of Gilead." Change of life as is found in new thoughts and new scenes is his only panacea. All else is makeshift.

Every paper that is read is offered because the writer believes that it contains new ideas and the latest thought of the entire world of otology is got at in a week. In the three years that have elapsed since the meeting of the last Congress everything that is new, or thought to be, will be presented, for it is before such a congregation of ability that discoverers prefer to advance new theories, or assert truths. The social functions incident to such a congress—official dinners, lunches, receptions, excursions, etc., into always interesting "old England," cannot fail to produce "a feast of reason and a flow of soul." Upon these occasions great men not only meet, but mix, and memories of pleasurable intercourse linger as a "joy forever."

We think that these meetings should be encouraged, for the reasons we have ennumerated, and that every practitioner of otology should "strain a point" to be present. Special societies, interested in this branch of medicine, should lend their endorsement by sending delegates, and making them positions of honor, thus stimulating desire to attend. Such a course would advance knowledge, assert the importance of the work, and enkindle respect for the splendid achievements of modern otology. Realizing the importance of the work of this Congress, to our readers, THE LARYNGOSCOPE will be represented and a full report of the proceedings will appear in a later number.

EWING.

ABSTRACTS AND BIBLIOGRAPHY.

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I. NOSE.

Removal of Extreme Deviations of the Cartilaginous and Osseous Septum by Resection—GEORG BÖNNINGHAUS—*Archiv für Laryngologie*, Band ix, Heft 2, 1899.

The operation recommended is somewhat complicated, and therefore should be limited to extreme cases or where the deviation is situated high up in the quadrilateral cartilage and the perpendicular lamina of the ethmoid. The technique is briefly as follows: Two incisions ¾ ctm. long are made through the mucous membrane on the convex side. The first running horizontally along the lower border of the deviation, the second perpendicular to the first and running up in front of the deviation. A slender elevator is then introduced and the mucous membrane and perichondrium are loosened and pushed up and down, leaving a space of bare cartilage. This being accomplished, the horizontal incision in the mucous membrane is prolonged and the soft tissues still further turned aside. This process is carried as far back as possible. An incision is then made through the cartilage, and the mucous membrane and perichondrium of the convex side are loosened by the elevator introduced through the opening. This incision must be carefully made so as to avoid cutting through the soft tissues, and is best accomplished by introducing the forefinger of the free hand into the concave side as a guide. In case of a sharp angle in the septum, a perforation is almost unavoidable at this stage. When the cartilage has thus been freed on both sides a strong pair of forceps is used to twist and break off small pieces, gradually proceeding backward until all the deviated portion has been removed. The author does not hesitate in this manner to remove the perpendicular lamina clear up to the cribiform plate if it is necessary. After this the loosened tissues, which were at first only pushed aside from the field of operation, are removed from the nose altogether and the operation is complete. The author does not consider that sufficient tissue has been removed unless he can see the posterior pharyngeal wall through the nostril and can get a good view of the middle turbinal.

Of course during this operation frequent sponging is necessary and renewed cocainization at intervals. The time occupied is one-half to two hours. Bleeding is usually free at the beginning, less so as the operation progresses. It frequently happens that external deformities of the nose are corrected at the same time that the interior deviation is removed. If, however, there is any tendency to "saddle nose," it is not remedied. Very little after-treatment is necessary, and the wound has usually healed in four to eight weeks. In case a perforation is unavoidable, it need cause the operator no anxiety, for no permanent evil results follow. For a short time there is a tendency to crust formations in the opening, but this generally subsides.

Accompanying the paper is a very completely tabulated report of nineteen cases operated on in this manner. The author does not claim to have originated this operation, although he worked it out gradually himself before reading Krieg's report of twenty-three cases treated in almost identically the same way. VITTUM.

II. MOUTH AND NASO-PHARYNX.

The Tonsils as a Menace to the Organism—J. R. WINSLOW—*Baltimore Med. Jour.*, May 13, 1899.

This paper deals with the action of the tonsils as the primary portals of entry of infectious disease into the organism. Though referring more particularly to the faucial glands, the facts deduced have a similar application to the whole of Waldeyar's lymphatic ring. Gerhardt termed the tonsils a physiological wound guarded by leucocytes, which during health protected the system against the invasion of germs.

The lymph spaces in this region are separated from external organisms by but a single layer of epithelial cells, and in many places these are loosely arranged.

Normal tonsils under normal circumstances are not supposed to absorb either fluid or solid matter. It is claimed, however, that the tonsils are only normal in infancy.

Streptococci and staphylococci are normally present in the crypts of the tonsils, but are not absorbed as long as a healthy state exists.

The author mentions the experiments and statements of various observers which tend to prove that infection occurs and frequently through these glands. Strassman's investigations have shown that tuberculosis is a common chronic infection that enters through the tonsils. The tubercle bacillus can enter the faucial tonsil and penetrate same without symptoms, and infect the cervical lymphatics.

With these views before us we must treat these glands from a broader standpoint. Not merely for the relief of conditions due hypertrophy, for many of the tonsils under consideration were not enlarged.

The treatment should be a prophylactic one. As absorption occurs through the follicles these channels should be sealed.

The ideal operation is electro-cautery. Adenoid tissue should be radically removed. LEDERMAN.

Carcinoma of the Tonsil—JAMES GALBRAITH COUNAL—*British Medical Journal*, March 25, 1899.

In a woman aged 60 there was a well defined swelling about the size of a pigeon's egg at the angle of the jaw and extending up behind the rannus on the right side, the right tonsil was enlarged and its surface ulcerated, the uvula was pressed upwards and to the opposite side and the right anterior pillar and adjoining surface of the soft palate was hyperemic and swollen. There was no involvment of the tongue. It may be noted her mother died of cancer of the breast, and a brother died of a tumor on the right side of the chest at 40 years of age. A portion of the tonsil was removed and microscopical examination revealed it be a carcinomatous growth.

Contrary to what is usual in malignant diseases of the tonsil pain was not an early symptom in this case, there has been some slight difficulty in swallowing but very little pain. Patient at first refused operative treatment, but afterwards portions of the tonsil were removed, giving the patient relief. FOXCROFT.

IV. LARYNX AND TRACHEA.

Tuberculosis of the Larynx—F. E. SAMPSON—*Med. Rev.*, Vol. iv, No. 5, May, 1899.

The author points out that there are cases of laryngeal tuberculosis in which the larynx presents the primary lesion, and which may continue for a time without implication of the lungs, and though they are not common, they should be recognized, since proper treatment results in a cure of the majority. He is convinced that the rules laid down for differentiation between syphilitic and tubercular ulceration of the larynx sometimes fail, and reports the case of a woman under his care that suited the description of tuberculosis in all respects, except the finding of tubercle bacilli. The patient's history and that of her husband was probed to the uttermost without finding anything suggestive of syphilis, and it was only after the woman was bedridden and dying that the use of the iodid was begun, with prompt recovery. The local and general treatment of tubercular laryngitis is clearly and sensibly outlined. EATON.

Membranous Laryngitis with Hyperpyrexia from Malarial Poison—C. H. WORRALL—*Lancet*, October 29, 1898.

This is described as a case of "simple membranous" laryngitis in contradistinction to diphtheritic laryngitis. There was, however, no bacteriological examination of the membrane, and there is

not sufficient record of the absence or presence of other symptoms to help in settling the diagnosis. About twenty-four hours after relief had been obtained by a tracheotomy the temperature ran up to 108.9°. The child became unconscious and died in a few hours. There was no post-mortem. STCLAIR THOMSON.

So-Called Autophony; i. e., The Pathological Resonance of One's Own Voice—G. BRUNNER—*Klinische Vorträge aus dem Gebiete der Otologie und Pharyngo-Rhinologie*, Band ii, Heft 3.

In this little monograph the author takes the ground that a permanently open Eustachian tube is the cause of the trouble. He opposes the views of Urbantschitsch and others who state that the phenomenon occurs in cases where the tube is open, and where it is closed, and is also caused by obstruction in the external canal.

The six cases cited certainly appear to support the author's view. In several of them the mere placing of a bougie in the tube sufficed to cut short the autophony. Some other facts he cites, such as the pulling open the tube by syphilitic scars, which have produced marked autophony.

Inasmuch as almost all of the patients were suffering from well-marked nasal catarrh, the author is inclined to think that the abnormal gaping of the Eustachian tube may have been brought about by some inflammatory condition affecting it or its surroundings. He therefore thinks that there is a catarrhal form of autophony, and that indeed it is the most common form. His method of treatment, therefore, is directed against the nasal conditions. In addition he advises the insufflation of mild dilutions (1—3 pro mille) of some irritating powder like sulphate of zinc.

VITTUM.

V. EAR.

Catheter Inflation of Tympanum: Its Value and Technique—B. ALEXANDER RANDALL, Philadelphia—*Journal Am. Med. Assn.*, May 27, 1899.

Preferably a catheter of virgin silver is to be used. A Politzer bag is recommended as the means of inflation. The catheter is passed along the floor of the nostril until its beak reaches the soft palate, "then a turn outward through a third of a circle will generally place it instantly in the mouth of the Eustachian tube. Many a case of hypertrophic or sclerotic deafness, which has been growing steadily worse under Politzer inflations and good naso-pharyngeal treatment, will hail with delight the immediately greater and more lasting gain from the catheter treatment." STEIN.

A Contribution to the Oto-Surgical Anatomy of the Temporal Bone—W. OKADE—*Archiv fuer Klin. Chirurgie*, Band lviii, Heft 4, 1899.

This monumental paper of about a hundred pages is composed for the most part of tabulated measurements of 111 skulls. The

material was obtained at the Anatomical Institute of Berlin, and consists of ordinary-shaped skulls such as one would meet in every-day practice. The conclusions obtained were as follows:

1. The author agrees with Schülzke, Randall and Garnault, who maintain, in opposition to Körner, that the anthropological form of the skull offers no trustworthy evidence as to the presence or absence of the so-called "dangerous" temporal bone. Moreover, Körner's assumptions might in certain cases lead to dangerous errors.

2. The "dangerous" temporal bone, which is characterized by the short distance between the sulcus transversus and the point of operation, occurs much more frequently on the right than on the left side; more often where the mastoid process is small than where it is large. Most important is the formation of the mastoid, the "dangerous" condition being present when the plane of the mastoid forms an angle with the axis of the external meatus.

3. This dangerous mastoid is called "Processus mastoideus infantilis" because it resembles the mastoid of the infantile temporal, which always presents a close approximation of the sulcus to the operating point.

4. To recognize a "dangerous" temporal one should always bear in mind the following points:

a. If the operation is done on the right side.

b. If the mastoid is very small both in its external and its perpendicular dimensions.

c. If a processus mastoideus infantilis is present.

d. If the patient is less than 13 years old.

e. If the spina supra meatus leans markedly to the median side.

f. Lastly, in the case of women the operation must be more carefully done than in the case of men. VITTUM.

VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

Coin in the Oesophagus Removed by Aid of the Fluorescent Screen—C. G. BURTON—*British Medical Journal*, April 1, 1899.

A girl, aged five years, swallowed a halfpenny, which was seen by the aid of the Roentgen Rays, to have lodged in the œsophagus. The X-ray tube was arranged under a bed board, which projected from the end of the table. The room was then darkened and the screen held over neck. A metal coin-catcher, which was plainly seen to pass behind the coin and hook round its lower edge, the coin being withdrawn. The interest of the case was the care with which this operation was performed, working with the fluorescent screen. FOXCROFT.

Open Safety-Pin Removed from a Child's Esophagus—RENELL ATKINSON—*British Medical Journal*, March 18, 1899.

A baby swallowed a brass safety-pin. On passing the finger down the esophagus the head of the pin could be felt. It was

seized with a long pair of curved forceps, but it could not be moved. The pin was tightly grasped by the forceps and the finger again passed down the gullet, disclosing the fact that the pin was open; it was then pushed down towards the stomach till the point was disengaged and withdrawn, the point being guarded by the finger.

FOXCROFT.

VII. INSTRUMENTS AND THERAPY.

On the Treatment of Chronic and Acute Diseases of the Respiratory Passages, with Guaiacol, Carbonate and Creosotal—FRITZ HÖLSCHER—Translated from the *Tageblatt fuer den Kongress zur Bekaempfung der Tuberkulose als Volkskrankheit*, No. 3, May 25, 1899.

1. Affirms that the claims made for these remedies by Chaumier and himself in 1891 have been sustained by the unanimous verdict of a great number of competent observers.

2. Emphasizes necessity for careful nutrition, albuminous diet being required to compensate for the extra decomposition of albumins caused by the remedy. Appetite and digestion are not impaired, but increased by the arrest of putrefactive processes.

3. Impregnation of the body with creosote combinations renders life conditions unfavorable for the organic etiological agent of the disease; it also favors elimination of the poisonous products of tissue metamorphosis which cause the disease symptoms. Thus it has a direct action upon the causative factor of the malady. Brilliant results are claimed for creosotal in acute respiratory diseases, notably the several pneumonias. Pneumonia can be aborted if the remedy is administered early enough, and in any event its course shortened. EWING.

On the Rapid Treatment of Pneumonia, Broncho-Pneumonia and Other Acute Diseases of the Respiratory Passages, After the Method of—CASSOUTE AND CORGIER—*As Practiced in the Marseilles Hospital.*

The method consists in the continuous administration of fairly large doses of creosotal. In most cases a typical fall occurred during the first twenty-four hours; if the creosote was continued for a sufficiently long time the apyrexia was a permanent one. The temperature rose again, however, when the drug was discontinued before the auscultatory signs had disappeared. Relapses and sequelæ, so frequent under other systems, were entirely absent. Creosote being eliminated by the lungs, as proven by the odor on the breath, within an hour, the special effect is regarded as antiseptic. The milder and more recent the auscultatory signs the quicker and more pronounced is the action of the drug upon the local lung lesion. No danger from the remedy. Neither cardiac affections nor albuminuria contraindicate its use. EWING.

BOOK REVIEWS.

Hay Fever, Its Successful Treatment. W. C. HOLLOPETER, M.D. Second edition. P. Blakeston, Son & Co., Philadelphia, 1899.

The author has produced a book of 150 pages, 144 of which are devoted to an interesting resumé of the literature of hay fever, and the dissertation upon the disease, but containing nothing new, and the other 6 (107 to 113 inclusive) advocating and directing a more thorough application of old remedies, such as Dobell's Solution, Menthol, Camphor, Hydrogen, Dioxid, the Sadrines, Albalin, etc., in different combinations. In short, the author attributes his "successful treatment" to the complete sterilization of the entire nasal cavity. He says: "The logical parallel to my methods is found in antiseptic surgery. *I scrub most carefully and gently every portion of the mucous membrane, being sure to reach between the turbinated bones, and all around, and over every slight prominence*" (italics his own). After this preliminary an application containing some of the above drugs, in oily or watery solution, is made with a hand-ball atomizer. This is the sum and substance of the new treatment that the author claims has given "complete relief" to over 200 cases treated by him.

Knowing the many idiosyncrasies of hay fever victims we confess our inability to exactly comprehend how this treatment has cured so many. These drugs have been sprayed into thousands of noses by others during the active course of the malady, with little benefit, and generally aggravating by their irritating effect. The benefit from resulting asepsis has hardly been appreciable. Furthermore, it is admitted by all bacteriologists, who have specially investigated the nasal cavity, that it cannot be completely sterilized and kept so. Again, it would seem impossible to "scrub every portion" of a nose as intumescent, and stopped as some of them become with this disease, without employing a depleting drug, and the author explicitly declares that "it is very exceptional when he uses cocaine" for any purpose whatever. And even if this were possible—an accomplishment, to say the least, most difficult and tedious, considering the ramifications, cracks and crevices of the cavity—it could not but prove exciting, and even intolerable to many hypersensitive, nervous individuals.

The book is handsomely bound in blue and gold, and the paper and printing models of the bookmaker's art.

EWING.

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